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29 March 2018

Ms. Nicole Wilson, P.E.
Project Manager
Federal Site Remediation Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Subject: **Environmental Monitoring Report – 2017 Long-Term Groundwater Environmental Monitoring Evaluation Report**
MIG/DeWane Landfill Site, Belvidere, Illinois

Dear Ms. Wilson:

On behalf of BFI Waste Systems of North America, Inc., Geosyntec Consultants is submitting the 2017 Long-Term Groundwater Environmental Monitoring Evaluation Report for the MIG/DeWane Landfill. Should you have any questions please contact me at (630) 203-3349.

Sincerely,

Jesse Varsho, P.E., P.G.
Principal Engineer

Attachments 2017 Long-Term Groundwater Environmental Monitoring Evaluation Report

Copies to: Eric Ballenger; BFINA (via email)
Mary Tierney; U.S. EPA (1 copy)
Andrew Schulkin; BFINA (via email)
Jay Timm; IEPA (2 copies)

Prepared for:

BFI Waste Systems North America, LLC
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2017 LONG-TERM GROUNDWATER ENVIRONMENTAL MONITORING EVALUATION REPORT

MIG/DEWANE LANDFILL SUPERFUND SITE BOONE COUNTY, BELVIDERE, ILLINOIS

0070050002- BOONE COUNTY
ILD 980497788

Prepared by

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Project Number CHE8214

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COC	Contaminants of Concern
GMZ	Groundwater Management Zone
IAC	Illinois Administrative Code
IEPA	Illinois Environmental Protection Agency
LGME	Long-term Groundwater Monitoring Event
MNA	Monitored Natural Attenuation
O&M	Operations and Maintenance
ROD	Record of Decision
USEPA	United States Environmental Protection Agency

1. INTRODUCTION

1.1 Terms of Reference

This 2017 Long-Term Groundwater Environmental Monitoring Report is submitted by BFI Waste Systems of North America, LLC. for the MIG/DeWane Landfill Superfund Site (Site) in Boone County, Illinois. This report summarizes the 2017 quarterly Long-Term Groundwater Monitoring Events (LGME), which were performed to meet the requirements of Section 7.5 of the 2000 Consent Decree-Statement of Work, and Sections 6.3 and 9.3 of the Operations and Maintenance Plan (O&M) Plan for the Site. The Environmental Monitoring Report was prepared by Geosyntec Consultants (Geosyntec) and reviewed by Jesse Varsho, P.E., P.G. of Geosyntec.

1.2 Purpose

The purpose of this Environmental Monitoring Report is to summarize the results of the four quarterly LGMEs completed in 2017 and provide natural attenuation evaluation for groundwater. As described in Section 7.2 "Groundwater Exceedances" of the O&M Plan, this report will also propose Groundwater Management Zone (GMZ) boundaries.

1.3 Site Background

The Site is located in Boone County, Illinois approximately 0.25 miles east of the City of Belvidere and 0.5 miles north of U.S Business Route 20. The Site is bounded on the north by the Chicago and Northwestern railroad tracks, and the Commonwealth Edison right-of-way. North of the railroad tracks is an agricultural field that extends to the Kishwaukee River. Agricultural property is located north and east of the Site and commercial properties are located to the south of the Site. A soil borrow pit and stormwater detention basin, used to provide soil for the Site's interim and final cap, is immediately adjacent to the west of the Site. Farther west of the Site is a residential housing development known as the Wycliffe Estates subdivision.

The Site occupies an area of approximately 47 acres and rises to a height of approximately 55 feet above the surrounding terrain. It operated as a landfill from 1969 until 1988. The landfill was a co-disposal facility where industrial wastes were disposed of with municipal solid wastes. The Site received residential, municipal, commercial, and industrial wastes. The Site was abandoned in 1988 by a former operator prior to achieving complete final closure. U.S. Environmental Production Agency (USEPA) placed the Site on the National Priorities List in 1990. Construction of the final remedial action occurred between 2014 and 2016 that consisted of placement of a final cover system, replacement of the leachate collection system, improvements to the landfill gas management system and environmental monitoring systems. The Illinois Environmental

Protection Agency (IEPA) certified completion of the remedial action construction on March 8, 2017.

1.4 Overview of Groundwater Monitoring

The USEPA concluded in the Record of Decision (ROD) that natural attenuation was occurring and that Monitored Natural Attenuation (MNA) would be an ongoing component of the remedial action at the Site. The ROD also indicates that the potential for exposure to Contaminants of Concern (COCs) is via the surface water pathway in the Kishwaukee River. The ROD specifically identifies two primary groundwater migration pathways: the West Glacial Drift pathway which flows to the northwest and the North Interface pathway which flows to the North towards the Kishwaukee River.

The surface water pathway has been identified as the potential exposure route and institutional controls to prevent groundwater use at the Site have been made a part of the Site remedy. Consequently, groundwater action levels for the Site were established in the ROD to be protective of surface water. The groundwater action levels (North and West Pathways) were established through a mathematical comparison of concentrations of groundwater constituents at the boundary of the Site that undergo natural attenuation as they migrate toward the Kishwaukee River. Groundwater monitoring data will track changes in groundwater conditions along each pathway before reaching the Kishwaukee River.

1.4.1 Long-Term Groundwater Monitoring Program and Field Sampling Procedures

The long-term groundwater monitoring well system consists of 25 wells, which are listed in **Table 1-1** and shown in **Figure 1-1**. The first, second, third, and fourth quarterly LGMEs were performed in March 2017, June 2017, August 2017, and December 2017, respectively. In addition to collection of analytical samples, static groundwater level measurements were measured as described in the quarterly reports. Groundwater elevations measured during the 2017 fourth quarterly event are shown in **Figure 1-1**. Monitoring well MW16 was damaged between the first and second LGMEs. It was replaced on November 13, 2017 (prior to the fourth quarter LGME) by MW16R, as discussed in previously submitted quarterly reports.

1.5 Long-Term Groundwater Monitoring Report Organization

The remaining sections of this Report are organized as follows:

- *Section 2, Quarterly Sampling and Trend Analysis,* provides a summary of recent monitoring results, comparison of groundwater data to Site action levels and performance standards, and historical trend analysis;

- *Section 3, Groundwater Management Zone (GMZ),* provides a proposed a groundwater management zone; *and*

- *Appendix A*: contains trend analyses for dissolved methane and benzene.

2. QUARTERLY SAMPLING AND TREND ANALYIS

2.1 Groundwater Elevation and Flow

Groundwater elevation data and potentiometric contour maps for the Glacial Drift and Bedrock Interface hydrostratigraphic units at the first to fourth quarterly events are presented in the quarterly reports. The potentiometric maps were developed during each quarter using static groundwater levels from selected monitoring wells in each hydrostratigraphic unit. Fourth quarter groundwater elevation data and potentiometric contour maps for the Glacial Drift and Bedrock Interface appear in **Table 2-1**, and **Figures 2-1a** and **2-1b**, respectively. The data indicate that groundwater elevations measured quarterly in 2017 were consistent throughout the year. Furthermore, the horizontal groundwater flow direction in the Glacial Drift hydrostratigraphic unit is north-northeast and the groundwater flow direction in the Bedrock Interface hydrostratigraphic unit is north-northeast, which was consistent across each quarter.

2.2 Comparison of Analytical Results to Site Action Limits

Action levels for groundwater at the Site are defined in the 2000 ROD and are pathway dependent. Action levels for detected COCs in the West and North Pathways are provided in **Table 2-2**. No COC concentrations in the twelve samples collected in the fourth quarter of 2017 exceeded Action Limits for the West Pathway or North Pathway.

2.3 Analytical Exceedances and Trends

Trend and natural attenuation analysis for parameters that exceeded its Illinois Administrative Code (IAC) 620 Class I Groundwater Standard during any quarter of 2017 are described in subsequent sections and shown in **Figures 2-2a to 2-2l**. Analytes detected in 2017 are reported in **Table 2-2.** Lists of all analytes tested for, lab reports and data validation reports are provided in the previously submitted quarterly reports. Trend analysis figures show data dating back to July 2012, though no data was collected from October 2014 through September 2016 during landfill corrective action construction.

2.3.1 Benzene

Concentrations of benzene in groundwater exceeded the IAC Part 620 Class I Groundwater Standard (5.0 micrograms per liter [µg/L]) only at well MW06S during each of the four 2017 LGMEs. As shown in **Figure 2-2a**, concentrations measured in 2017 range from 5.2 µg/L to 5.9 µg/L. The figure shows the benzene concentrations collected from July 2012 through 2017 have a general downward trend. As shown in **Figure 2-3a**, benzene was detected below the Class I

Groundwater Standard at wells MW08S, MW13, MW15, and MW16/16R, and was non-detect at all other sampled wells during 2017.

Elevated levels of dissolved methane (> ~1500 µg/L) are possibly contributing to concentrations of benzene that exceed the Class I Groundwater Standard of 5.0 µg/L. Site data demonstrate that concentrations of these parameters appear to show benzene and dissolved methane are positively correlated (**Appendix A**). The results of sampling conducted in 2018 will be further evaluated for correlations between dissolved methane concentrations in landfill gas and benzene concentrations in groundwater. Additional landfill gas vents were installed during the Fall of 2017 at the Site, and will continue to be used for the management of landfill gas (methane) in the soil and groundwater at the Site.

2.3.2 Vinyl Chloride

The concentration of vinyl chloride in groundwater (2.1 µg/L, "J" qualified as estimated) exceeded the IAC 620 Class I Groundwater Standard (2.0 µg/L) only at well MW13 during the second quarter 2017 LGME, as shown in **Figure 2-2b**. Concentrations measured in sampled wells from 2012 through 2017 were non-detect, except for well MW13 during one event. The reporting limit for vinyl chloride was 2.0 µg/L from 2012 to 2014, and 1.0 µg/L in 2017. Confirmatory sampling during 2018 will demonstrate if concentrations continue to stay below the Class I Groundwater Standard.

2.3.3 1,4-Dioxane

1,4-dioxane was not included on the list of analytes to be sampled on a quarterly basis. It is listed in Appendix I of 35 IAC Part 724 and was therefore analyzed as part of the annual sampling list during fourth quarter of 2017. It was found to exceed the IAC Part 620 Class I Groundwater Standard (7.7 µg/L, applied in 2013) at wells MW06S, MW08S, MW13, MW14, MW15, and MW16/16R, as shown in **Figure 2-2c** and **Figure 2-3b**. 1,4-dioxane was non-detect in wells MW02D, MW02S, MW03D, MW03S, MW06D and MW07S. During sampling events in years prior to the landfill cap construction (2010 and 2011), the detection limit for 1,4-dioxane was 400 µg/L; however, improved analytical laboratory methods for analysis reduced the detection limit to 5.0 µg/L in 2017.

1,4-dioxane was previously detected at well MW15 in 2010 (**Figure 2-2c**) at a concentration of 420 µg/L. Since that time, 1,4-dioxane has not been measured at the Site. At well MW15, 1,4-dioxane concentrations have decreased from 420 µg/L to 133 µg/L. Confirmatory sampling of 1,4-dioxane will be conducted the 1st qtr. 2018 quarterly sampling event to verify detections. As discussed in Section 3, the proposed GMZ will extend beyond wells where 1,4-dioxane was detected above the Class I Groundwater Standard.

2.3.4 *Total Antimony*

The concentration of total antimony in groundwater (0.007 mg/L) exceeded the IAC Part 620 Class I Groundwater Standard (0.006 mg/L) at well MW06D during the first quarter of 2017, as shown in **Figure 2-2d.** Antimony was not analyzed in groundwater during landfill cap construction from 2014 through 2016 in well MW06D. For the 2nd through 4th qtr. 2017 sampling results for antimony at MW06D were below Class I groundwater standards.

2.3.5 *Total Arsenic*

Concentration of total arsenic in groundwater exceeded the IAC Part 620 Class I Groundwater Standard (0.010 mg/L) in wells MW03S, MW06S, MW08S, MW13, MW14, MW15, and MW16/16R during more than one quarter in 2017, as shown in **Figure 2-2e**. Confirmatory sampling during 2018 will demonstrate whether arsenic concentrations at these wells continue to be consistently above the Class I Groundwater Standard, or if the concentrations in groundwater are related to a background condition. In addition, sampling in 2018 may include both total and dissolved (field filtered) arsenic to verify if past detections were related to sample turbidity.

2.3.6 *Total Barium*

Concentrations of total barium in groundwater exceeded the IAC Part 620 Class I Groundwater Standard (2.0 mg/L) in only well MW06S during the fourth quarter in 2017, as shown in **Figure 2-2f.** Barium was detected just above the standard with a concentration of 2.08 mg/L.

2.3.7 *Total Boron*

Concentrations of boron in groundwater exceeded the IAC Part 620 Class I Groundwater Standard (2.0 mg/L) in wells MW06s and MW15 during all four quarters in2017. As shown in **Figure 2-2g**, boron concentrations ranged from 3.43 mg/L to 4.53 mg/L in these two wells. Boron has remained above the standard since 2012 and a slight increase in concentrations was observed in 2017. Confirmatory sampling during 2018 will be used to further evaluate concentration trends of boron in groundwater.

2.3.8 *Total Chromium*

Concentrations of total chromium in groundwater exceeded the IAC Part 620 Class I Groundwater Standard (0.1 mg/L) in well MW06D during the first two quarters in 2017. As shown in **Figure 2-2h**, concentrations in MW06D in 2017 ranged from 0.019 mg/L to 1.97 mg/L. Chromium was not tested for from 2012 through October 2014 in well MW06D. During 2018 sampling, both total and hexavalent chromium will be analyzed in groundwater samples to verify if detected concentrations are related to the more toxic hexavalent chromium (Cr^{+6}), for which the Class I

Groundwater Standard applies. Confirmatory sampling during 2018 will also be used to further evaluate concentration trends of total, or if detected Cr^{+6}, chromium in groundwater.

2.3.9 Total Iron

Concentrations of total iron exceeded the IAC Part 620 Class I Groundwater Standard (5.0 mg/L) in wells MW06D, MW08S, MW13, MW14, MW15, and MW16/16R during several quarters in 2017, as shown in **Figure 2-2i**. Maximum concentrations of 24.6 mg/L and 29.5 mg/L were detected in wells MW13 and MW16, respectively. Iron was not tested for in well MW06D from 2012 through 2014. Confirmatory sampling during 2018 will demonstrate whether iron concentrations at these wells continue to be consistently above the Class I Groundwater Standard, or if the concentrations in groundwater are related to a background condition. In addition, sampling in 2018 may include both total and dissolved (field filtered) iron to verify if past detections were related to sample turbidity.

2.3.10 Total Manganese

Concentrations of total manganese exceeded the IAC Part 620 Class I Groundwater Standard (0.15 mg/L) in wells MW02S, MW03S, MW06D, MW06S, MW13, MW15, and MW16/16R during several quarters in 2017, as shown in **Figure 2-2j.** Maximum concentrations of 0.918 mg/L and 0.996 mg/L were detected in wells MW13 and MW16, respectively. Manganese was not tested for in well MW06D from 2012 through 2014. Confirmatory sampling during 2018 will demonstrate whether manganese concentrations at these wells continue to be consistently above the Class I Groundwater Standard, or if the concentrations in groundwater are related to a background condition. In addition, sampling in 2018 may include both total and dissolved (field filtered) manganese to verify if past detections were related to sample turbidity.

2.3.11 Nickel

Concentrations of total nickel exceeded the IAC Part 620 Class I Groundwater Standard (0.10 mg/L) in wells MW06D, MW06S, MW15, and MW16/16R during several quarters in 2017, as shown in **Figure 2-2k**. A maximum concentration of 0.898 mg/L was detected in well MW06D. Nickel was not tested for in well MW06D from 2012 through 2014. Trends in nickel concentration since 2012 at MW06D, MW06S, and MW15 are generally consistent. Confirmatory sampling during 2018 will be used to further evaluate concentration trends of nickel in groundwater. As discussed in Section 3, the proposed GMZ will extend beyond wells MW06D, MW06S, MW15, and MW16/16R, where nickel was detected above Class I Groundwater Standards.

2.3.12 Total Chloride

Concentrations of total chloride exceeded the IAC Part 620 Class I Groundwater Standard (200.0 mg/L) at wells MW06S, MW07S, MW08S, MW13, MW 15, and MW16/16R during several

quarters in 2017, as shown in **Figure 2-2l**. Maximum concentrations of 1180 mg/L and 1240 mg/L were detected in wells MW06S and MW15, respectively. Chloride was not tested in groundwater samples from 2012 to 2014, and in the fourth quarter LGME. Confirmatory sampling during 2018 will be used to further evaluate concentration trends of chloride in groundwater. As discussed in Section 3, the proposed GMZ will extend beyond wells MW06S, MW07S, MW08S, MW13, MW 15, and MW16/16R, where chloride was detected above Class I Groundwater Standards.

3. GROUNDWATER MANAGEMENT ZONE

As discussed within Section 7.2 "Groundwater Exceedances" of the O&M Plan this annual report proposes the GMZ boundary shown in **Figure 3-1.** Groundwater is considered within the GMZ if any parameter is above the IAC Part 620 Class I Groundwater Standard. The proposed GMZ boundaries lie beyond wells where exceedances of a Class I Groundwater Standard were detected in groundwater in 2017. Therefore, the GMZ includes all wells sampled, with the exceptions of MW02S and MW02D. The GMZ boundary may be modified after 2018 LGME results are evaluated and/or during approval of institutional controls by the property owner of the agricultural field north of the site (Mickey property).

4. SUMMARY

Groundwater elevations and flow directions measured during the four LGMEs are consistent with historical measurements. Based on the four quarterly 2017 LGME results, there were no parameters that exceeded the established groundwater action limits as discussed in Section 6.5 of the O&M Plan. Groundwater analytical results are generally consistent with historical results. Decreasing concentration trends for many parameters at several wells indicate that MNA continues to be the appropriate remedial action for the Site.

Several parameters exceeded the IAC Part 620 Class I Groundwater Standard as discussed in Section 2.3, including benzene and 1,4-dioxane. During sampling events prior to 2017, the detection limit for 1,4-dioxane was 400 µg/L; however, improved analytical laboratory methods for analysis reduced the detection limit to 5.0 µg/L in 2017. Therefore, 1,4-dioxane will be added to the 2018 quarterly sampling program, in addition to barium. In addition, total and dissolved metals are proposed to verify if past detections, specifically of arsenic, iron, and manganese, were related to sample turbidity rather than a dissolved groundwater plume. Samples analyzed in 2018 will be evaluated for correlations between dissolved methane concentrations in landfill gas and benzene concentrations in groundwater. Based on IAC Part 620 Class I Groundwater Standard COC exceedances measured in groundwater during quarterly sampling in 2017, a GMZ is proposed (**Figure 3-1**).

TABLES

Table 1-1. Long-Term Groundwater Monitoring Wells
MIG/DeWane Landfill Superfund Site
Boone County, Illinois

Well ID	Hydrogeologic Unit	Relative Location	Northing	Easting	Ground Surface Elevation	Top of Casing Elevation	Depth of Well (ft)
MW02D	North Interface	Upgradient	2034445.05	855707.36	784.8	787.1	37.0
MW02S	West Glacial Drift	Upgradient	2034440.16	855703.27	785.1	786.9	15.5
MW03D	North Interface	West Site Boundary	2035761.07	854426.19	811.0	813.6	79.6
MW03S	West Glacial Drift	West Site Boundary	2035766.59	854425.69	811.3	813.9	40.0
MW04D	North Interface	Side-Gradient	2035800.37	856708.24	776.0	788.6	30.0
MW04S	West Glacial Drift	Side-Gradient	2035800.37	856739.80	776.2	788.8	10.5
MW05S	North Interface	Side-Gradient	2036437.51	856583.69	777.0	780.1	30.7
MW05D	North Interface	Side-Gradient	2036437.51	856550.14	777.3	779.9	51.0
MW06S	North Interface	Downgradient Site Boundary	2036827.31	855813.90	779.5	781.6	35.6
MW06D	North Interface	Downgradient Site Boundary	2036839.90	855856.39	779.5	782.1	54.6
MW07S	North Interface	Downgradient Site Boundary	2037104.51	855146.90	777.9	780.1	35.0
MW07D	North Interface	Downgradient Site Boundary	2037114.34	855189.89	778.0	779.9	55.0
MW08S	North Interface	Downgradient Site Boundary	2037231.61	854454.00	779.1	782.8	44.6
MW08D	North Interface	Downgradient Site Boundary	2037234.81	854535.35	779.0	781.1	65.0
MW09D	North Interface	Kishwukee River Sentinel Well	2037592.71	855868.00	771.7	774.2	61.0
MW09S	West Glacial Drift	Kishwukee River Sentinel Well	2037595.11	855860.10	771.6	773.9	31.0
MW10D	North Interface	North of Kishwaukee River(2)	2038471.58	855848.00	759.3	761.3	78.0
MW10S	West Glacial Drift	North of Kishwaukee River(2)	2038471.58	855881.15	759.4	NM	16.7
MW11R	West Glacial Drift	Kishwukee River Sentinel Well	2037355.54	856220.64	768.3	770.8	18.9
MW12D	North Interface	Kishwukee River Sentinel Well	2038022.61	854822.40	758.7	761.2	77.0
MW12S	West Glacial Drift	Kishwukee River Sentinel Well	2038022.31	854816.60	758.7	761.4	14.9
MW13	West Glacial Drift	West Site Boundary	2036431.91	854348.90	793.3	795.7	21.8
MW14	West Glacial Drift	West Site Boundary	2036618.61	853965.50	798.0	798.0	30.9
MW15	NA	Downgradient Site Boundary	2036673.61	856091.10	781.0	783.1	23.2
MW16R	NA	Downgradient Site Boundary	2037015.31	855426.60	774.9	777.4	19.7

Notes:
Locations of monitoring wells are shown on Figure 2-1.
(1) Static groundwater levels were measured at all 25 wells.
(2) MW10S and MW10D are not hydraulically connected to the Site.

Table 2-1
4th Quarter 2017 Groundwater Levels
MIG/DeWane Landfill Superfund Site
Boone County, Belvidere, Illinois

Well ID	Date	Total Depth (feet bgs)	TOC Elevation (feet MSL)	Depth to Water (feet below TOC)	Groundwater Elevation (feet MSL)	Comment	4th Quarter 2017 Groundwater Sample Collected
MW02S	12/20/2017	15.5	786.9	2.75	784.1		Yes
MW02D	12/20/2017	37	787.1	3.25	783.9		Yes
MW03S	12/20/2017	40	813.9	32.40	781.5		Yes
MW03D	12/20/2017	79.6	813.6	32.60	781.0		Yes
MW04S	12/19/2017	10.5	788.8	7.66	781.1		No
MW04D	12/19/2017	30	788.6	8.18	780.4		No
MW05S	12/19/2017	30.7	780.1	16.88	763.2		No
MW05D	12/19/2017	51	779.9	16.45	763.5		No
MW06S	12/19/2017	35.6	781.6	16.25	765.3		Yes
MW06D	12/19/2017	54.6	782.1	19.38	762.8		Yes
MW07S	12/19/2017	35	780.1	17.46	762.7		Yes
MW07D	12/19/2017	55	779.9	19.48	760.4		No
MW08S	12/19/2017	44.6	782.8	22.58	760.2		Yes
MW08D	12/19/2017	65	781.1	21.30	759.8		No
MW09S	12/19/2017	31	773.9	21.15	752.8		No
MW09D	12/19/2017	61	774.2	20.99	753.2		No
MW10S	12/19/2017	16.7	762.2	NM	NM	Well plugged	No
MW10D	12/19/2017	78	761.3	5.76	755.6		No
MW11R	12/19/2017	18.9	770.8	17.34	753.5		No
MW12S	12/19/2017	14.9	761.4	8.95	752.5		No
MW12D	12/19/2017	77	761.2	5.63	755.6		No
MW13	12/20/2017	21.8	795.7	20.28	775.4		Yes
MW14	12/20/2017	30.9	798.0	26.20	771.8		Yes
MW15	12/19/2017	23.2	783.1	16.85	766.3		Yes
MW16R	12/19/2017	19.7	777.4	13.55	763.8		Yes

Notes:
TOC=Top of Casing
MSL=Mean Sea Level
bgs=below ground surface
NM=Not Measured

Analyte	Quarterly and Annual Sampling (Y/N)	Units	West Pathway Action Level	North Pathway Action Level	IL Class I GW Standard	MW02D					MW02S					MW03D			
						3/27/2017	3/27/2017 DUP	6/27/2017	8/30/2017	12/19/2017	3/27/2017	6/27/2017	8/30/2017	12/19/2017	12/19/2017 DUP	3/27/2017	6/27/2017	8/30/2017	12/19/2017
VOCs																			
1,1-Dichloroethane	N	ug/L	NL	NL	NS	NM	NM	NM	NM	<5.0 R	NM	NM	NM	<5.0 R	<5.0 R	NM	NM	NM	<5.0 R
1,2-Dichloropropane	Y	ug/L	850	370	5	< 1	< 1	< 1.0 J	<1.0	<1.0 R	< 1	< 1.0 J	<1.0	<1.0 R	<1.0 R	< 1	< 1.0 J	<1.0	<1.0 R
Benzene	Y	ug/L	6300	1370	5	< 1	< 1	< 1.0	<1.0	<1.0	< 1	< 1.0	<1.0	<1.0	<1.0	< 1	< 1.0	<1.0	<1.0
Vinyl chloride	Y	ug/L	10580	4770	2	< 1 J	< 1 J	< 1.0 J	<1.0 J	<1.0 J	< 1 J	< 1.0 J	<1.0 J	<1.0 J	<1.0 J	< 1 J	< 1.0 J	<1.0 J	<1.0 J
Inorganics - Metals																			
Antimony	Y	mg/L	NL	NL	0.006	< 0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J
Arsenic	Y	mg/L	NL	NL	0.01	< 0.002 J	< 0.002 J	< 0.002 J	<0.002 J	<0.002 J	< 0.002 J	< 0.002 J	<0.002 J	<0.002 J	<0.002 J	< 0.002 J	< 0.002 J	<0.002 J	<0.002 J
Barium	N	mg/L	NL	NL	2	NM	NM	NM	NM	**0.109**	NM	NM	NM	**0.083**	**0.084**	NM	NM	NM	**0.254**
Boron	Y	mg/L	NL	NL	2	< 0.05 J	**0.08 J**	< 0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05
Chromium	Y	mg/L	NL	NL	0.1	< 0.005	< 0.005	< 0.005	<0.005	<0.005	**0.033 J+**	< 0.005	<0.005	**0.023 J**	**0.050 J**	**0.009 J+**	< 0.005	<0.005	<0.005
Cobalt	N	mg/L	NL	NL	1	NM	NM	NM	NM	<0.005	NM	NM	NM	<0.005	<0.005	NM	NM	NM	<0.005
Copper	N	mg/L	NL	NL	0.65	NM	NM	NM	NM	<0.005	NM	NM	NM	<0.005	<0.005	NM	NM	NM	<0.005
Iron	Y	mg/L	NL	NL	5	**0.33**	**0.31**	**0.07**	**2.28**	**0.13**	**0.23**	< 0.05	<0.05	**0.19 J**	<0.05 J	**1.8**	**1.83**	**1.76**	**1.79**
Manganese	Y	mg/L	NL	NL	0.15	**0.059 J+**	**0.048**	**0.055**	**0.054**	**0.055**	**0.33**	**0.107**	**0.101**	**0.128 J**	**0.185 J**	**0.089**	**0.062**	**0.067**	**0.072**
Nickel	Y	mg/L	NL	NL	0.1	**0.009**	**0.008**	**0.008**	**0.009**	<0.005	**0.008**	**0.006**	<0.005	<0.005	<0.005	**0.096**	**0.03**	**0.033**	**0.040**
Zinc	N	mg/L	NL	NL	5	NM	NM	NM	NM	<0.010	NM	NM	NM	<0.010	<0.010	NM	NM	NM	**0.023**
Inorganics - Other																			
Chloride	Y	mg/L	NL	NL	200.0	**93 J-**	**95**	**98**	**120**	NM	**156**	**148**	**135**	NM	NM	**76**	**70**	**75**	NM
Methane	Y	µg/L	NL	NL	NS	**4.1**	**3.9**	< 2.0	<2.0	NM	< 2	< 2.0 NS	< 2.0	NM	NM	**12.4**	**10.6 NS**	**8.8**	NM
Nitrate (as N)	Y	mg/L	NL	NL	10.0	< 0.1 J	**0.24 J**	**0.38**	**0.29 J+**	NM	**1.29**	**1.43**	**0.79**	NM	NM	< 0.1	< 0.10	**0.42 J**	NM
Sulfate	Y	mg/L	NL	NL	400.0	**52 J+**	**58**	**69**	**81**	NM	**57**	**55**	**54**	NM	NM	**72**	**78**	**76 J-**	NM
SVOCs																			
1,4-Dioxane	N	ug/L	NL	NL	7.7	NM	NM	NM	NM	<5	NM	NM	NM	<5	<5	NM	NM	NM	<5

Notes:

(1) Detections are bold.

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(11) W indicates that the reporting limit was elevated due to the sample matrix.

(12) R indicates that analyte analysis was rejected due to laboratory calibration outsite acceptance criteria. Refer to the 4th quarter report for additional details.

DeWane Landfill Superfund Site
Boone County, Belvidere, Illinois

Analyte	Quarterly and Annual Sampling (Y/N)	Units	West Pathway Action Level	North Pathway Action Level	IL Class I GW Standard	MW03S				MW06D				MW06S			
						3/27/2017	6/27/2017	8/30/2017	12/19/2017	3/27/2017	6/27/2017	8/30/2017	12/19/2017	3/27/2017	6/27/2017	8/30/2017	12/19/2017
VOCs																	
1,1-Dichloroethane	N	ug/L	NL	NL	NS	NM	NM	NM	<5.0 R	NM	NM	NM	<5.0 R	NM	NM	NM	**12.6 J**
1,2-Dichloropropane	Y	ug/L	850	370	5	< 1	< 1.0 J	<1.0	<1.0 R	< 1	< 1.0 J	<1.0	<1.0 R	< 1	< 1.0 J	<1.0	<1.0 R
Benzene	Y	ug/L	6300	1370	5	< 1	< 1.0	<1.0	<1.0	< 1	< 1.0	<1.0	<1.0	**5.2**	**5.9**	**5.6**	**5.9**
Vinyl chloride	Y	ug/L	10580	4770	2	< 1 J	< 1.0 J	<1.0 J	<1.0 J	< 1 J	< 1.0 J	<1.0 J	<1.0 J	**1.1 J**	**1.7 J**	<1.0 J	**1.5 J**
Inorganics - Metals																	
Antimony	Y	mg/L	NL	NL	0.006	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	**0.007 J**	<0.003 J	<0.003 J	<0.003 J	< 0.003	<0.003 J	<0.003 J	<0.003 J
Arsenic	Y	mg/L	NL	NL	0.01	**0.012**	**0.01**	**0.010**	**0.012**	< 0.002 J	< 0.002 J	<0.002 J	<0.002 J	**0.012**	**0.008 J**	**0.012**	**0.009**
Barium	N	mg/L	NL	NL	2	NM	NM	NM	**0.099**	NM	NM	NM	**0.181**	NM	NM	NM	**2.08**
Boron	Y	mg/L	NL	NL	2	**0.07**	**0.17**	**0.07**	**0.08**	< 0.05	**0.11**	**0.14**	<0.05	**3.52**	**3.51**	**3.70**	**3.52**
Chromium	Y	mg/L	NL	NL	0.1	< 0.005	< 0.005	<0.005	<0.005	**1.97 J+**	**0.174**	**0.039**	**0.019**	< 0.005	< 0.005	<0.005	<0.005
Cobalt	N	mg/L	NL	NL	1	NM	NM	NM	<0.005	NM	NM	NM	<0.005	NM	NM	NM	**0.008**
Copper	N	mg/L	NL	NL	0.65	NM	NM	NM	<0.005	NM	NM	NM	**0.005**	NM	NM	NM	<0.005
Iron	Y	mg/L	NL	NL	5	**2.95**	**3.36**	**3.82**	**3.29**	**5.58**	**7.42**	**3.11**	**0.59**	**3.88**	**4.45**	**4.12**	**3.88**
Manganese	Y	mg/L	NL	NL	0.15	**0.532**	**0.479**	**0.619**	**0.603**	**0.074**	**0.258**	**0.257**	**0.065**	**0.25**	**0.264**	**0.244**	**0.241**
Nickel	Y	mg/L	NL	NL	0.1	**0.012**	**0.016**	**0.010**	<0.005	**0.264**	**0.898**	**0.883**	**0.197**	**0.251**	**0.261**	**0.277**	**0.258**
Zinc	N	mg/L	NL	NL	5	NM	NM	NM	<0.010	NM	NM	NM	<0.010	NM	NM	NM	<0.010
Inorganics - Other																	
Chloride	Y	mg/L	NL	NL	200.0	**35 J-**	**56**	**48**	NM	**15**	**52**	**68**	NM	**1080**	**1060**	**1180**	NM
Methane	Y	µg/L	NL	NL	NS	**75**	**34.1 NS**	**16.1**	NM	**108**	**142 NS**	**250**	NM	**2020**	**1660 NS**	**1660**	NM
Nitrate (as N)	Y	mg/L	NL	NL	10.0	< 0.1	< 0.10 J	**0.14 J+**	NM	< 0.1	< 0.10	**0.16 J+**	NM	**0.49**	**0.1**	**0.12 J+**	NM
Sulfate	Y	mg/L	NL	NL	400.0	**33**	**29 J-**	**39**	NM	< 30 W	< 15	**17**	NM	< 30 W	< 15	**16**	NM
SVOCs																	
1,4-Dioxane	N	ug/L	NL	NL	7.7	NM	NM	NM	<5	NM	NM	NM	<5	NM	NM	NM	**64**

Notes:

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DeWane Landfill Superfund Site
Boone County, Belvidere, Illinois

Analyte	Quarterly and Annual Sampling (Y/N)	Units	West Pathway Action Level	North Pathway Action Level	IL Class I GW Standard	MW07S				MW08S					MW13			
						3/27/2017	6/27/2017	8/30/2017	12/19/2017	3/27/2017	6/27/2017	8/30/2017	8/30/2017 DUP	12/19/2017	3/27/2017	6/27/2017	8/30/2017	12/19/2017
VOCs																		
1,1-Dichloroethane	N	ug/L	NL	NL	NS	NM	NM	NM	<5.0 R	NM	NM	NM	NM	<5.0 R	NM	NM	NM	<5.0 R
1,2-Dichloropropane	Y	ug/L	850	370	5	< 1	< 1.0 J	<1.0	<1.0 R	**2**	**2.3 J**	**2.1**	**2.2**	<1.0 R	< 1	< 1.0 J	<1.0	<1.0 R
Benzene	Y	ug/L	6300	1370	5	< 1	< 1.0	<1.0	<1.0	**1.7**	**2.4**	<1.0 J	**2.0 J**	**2.3**	< 1	**1.3**	<1.0	<1.0
Vinyl chloride	Y	ug/L	10580	4770	2	< 1 J	< 1.0 J	<1.0 J	<1.0 J	< 1 J	< 1.0 J	<1.0 J	<1.0 J	<1.0 J	< 1 J	**2.1 J**	<1.0 J	<1.0 J
Inorganics - Metals																		
Antimony	Y	mg/L	NL	NL	0.006	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J
Arsenic	Y	mg/L	NL	NL	0.01	< 0.002 J	< 0.002 J	<0.002 J	<0.002 J	**0.076**	**0.067**	**0.049**	**0.050**	**0.079**	**0.268**	**0.113**	**0.066**	**0.039**
Barium	N	mg/L	NL	NL	2	NM	NM	NM	**0.271**	NM	NM	NM	NM	**0.471**	NM	NM	NM	**0.244**
Boron	Y	mg/L	NL	NL	2	**0.3**	**0.46**	**0.42**	**0.43**	**0.3**	**0.33**	**0.36**	**0.36**	**0.42**	**0.94**	**0.59**	**0.87**	**0.73**
Chromium	Y	mg/L	NL	NL	0.1	< 0.005	< 0.005	<0.005	<0.005	< 0.005	**0.014**	<0.005	<0.005	<0.005	< 0.005	< 0.005	<0.005	<0.005
Cobalt	N	mg/L	NL	NL	1	NM	NM	NM	<0.005	NM	NM	NM	NM	<0.005	NM	NM	NM	<0.005
Copper	N	mg/L	NL	NL	0.65	NM	NM	NM	<0.005	NM	NM	NM	NM	<0.005	NM	NM	NM	<0.005
Iron	Y	mg/L	NL	NL	5	**2.43**	**3.17**	**3.12**	**3.00**	**6.7**	**7.79**	**6.98**	**6.98**	**7.60**	**22.6**	**24.6**	**11.2**	**6.60**
Manganese	Y	mg/L	NL	NL	0.15	**0.028**	**0.029**	**0.031**	**0.026**	**0.042**	**0.064**	**0.105**	**0.096**	**0.046**	**0.08**	**0.918**	**0.086**	**0.057**
Nickel	Y	mg/L	NL	NL	0.1	**0.048**	**0.055**	**0.050**	**0.047**	**0.038**	**0.056**	**0.065**	**0.062**	**0.050**	**0.1**	**0.088**	**0.092**	**0.081**
Zinc	N	mg/L	NL	NL	5	NM	NM	NM	<0.010	NM	NM	NM	NM	<0.010	NM	NM	NM	<0.010
Inorganics - Other																		
Chloride	Y	mg/L	NL	NL	200.0	**178**	**206**	**192**	NM	**126**	**200**	**234**	**224**	NM	**268**	**200**	**256**	NM
Methane	Y	µg/L	NL	NL	NS	**466**	**520 NS**	**560**	NM	**338**	**360 NS**	**492**	**515**	NM	**830**	**1200 NS**	**683**	NM
Nitrate (as N)	Y	mg/L	NL	NL	10.0	< 0.1	< 0.10	<0.10	NM	< 0.1	< 0.10	**0.16 J+**	**0.20 J+**	NM	**0.3**	**0.14**	<0.10	NM
Sulfate	Y	mg/L	NL	NL	400.0	**32**	**34**	**36**	NM	**41**	**30**	**22**	**20**	NM	< 30 W	< 15	**19**	NM
SVOCs																		
1,4-Dioxane	N	ug/L	NL	NL	7.7	NM	NM	NM	<5	NM	NM	NM	NM	**23**	NM	NM	NM	**41**

Notes:

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Table 2-2
2017 Long-Term Groundwater Monitoring Analytical Results MIG/
DeWane Landfill Superfund Site
Boone County, Belvidere, Illinois

Analyte	Quarterly and Annual Sampling (Y/N)	Units	West Pathway Action Level	North Pathway Action Level	IL Class I GW Standard	MW14				MW15					MW16R			
						3/27/2017	6/27/2017	8/30/2017	12/19/2017	3/27/2017	6/27/2017	6/27/2017 DUP	8/30/2017	12/19/2017	3/27/2017	6/27/2017	8/30/2017	12/19/2017
VOCs																		
1,1-Dichloroethane	N	ug/L	NL	NL	NS	NM	NM	NM	<5.0 R	NM	NM	NM	NM	<5.0 R	NM	NM	NM	<5.0 R
1,2-Dichloropropane	Y	ug/L	850	370	5	< 1	< 1.0 J	<1.0	<1.0 R	< 1	< 1.0 J	< 1.0 J	<1.0	<1.0 R	< 1	NM	NM	<1.0 R
Benzene	Y	ug/L	6300	1370	5	< 1	< 1.0	<1.0	<1.0	**1.9**	**3.3**	**3.2**	**2.6**	**3.3**	< 1	NM	NM	**2.4**
Vinyl chloride	Y	ug/L	10580	4770	2	< 1 J	< 1.0 J	<1.0 J	<1.0 J	< 1 J	< 1.0 J	< 1.0 J	<1.0 J	<1.0 J	< 1 J	NM	NM	<1.0 J
Inorganics - Metals																		
Antimony	Y	mg/L	NL	NL	0.006	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	<0.003 J	<0.003 J	<0.003 J	<0.003 J	< 0.003 J	NM	NM	<0.003 J
Arsenic	Y	mg/L	NL	NL	0.01	**0.033**	**0.023**	**0.015**	**0.007**	**0.035**	**0.032**	**0.03**	**0.033**	**0.034**	**0.004 J**	NM	NM	**0.025**
Barium	N	mg/L	NL	NL	2	NM	NM	NM	**0.119**	NM	NM	NM	NM	**0.798**	NM	NM	NM	**0.216**
Boron	Y	mg/L	NL	NL	2	**0.25**	**0.07**	<0.05	**0.17**	**3.43**	**4.38**	**4.38**	**3.86**	**4.53**	**0.47**	NM	NM	**0.83**
Chromium	Y	mg/L	NL	NL	0.1	< 0.005	< 0.005	<0.005	<0.005	< 0.005	< 0.005	< 0.005	<0.005	<0.005	< 0.005	NM	NM	<0.005
Cobalt	N	mg/L	NL	NL	1	NM	NM	NM	<0.005	NM	NM	NM	NM	**0.014**	NM	NM	NM	<0.005
Copper	N	mg/L	NL	NL	0.65	NM	NM	NM	<0.005	NM	NM	NM	NM	<0.005	NM	NM	NM	<0.005
Iron	Y	mg/L	NL	NL	5	**5.44**	**3.15**	**2.30**	**1.31**	**15.1**	**16.3**	**17.2**	**14.0**	**15.9**	**2.62**	NM	NM	**29.5**
Manganese	Y	mg/L	NL	NL	0.15	**0.065**	**0.024**	<0.005	**0.113**	**0.238**	**0.257**	**0.257**	**0.216**	**0.254**	**0.996**	NM	NM	**0.315**
Nickel	Y	mg/L	NL	NL	0.1	**0.033**	**0.01**	<0.005	**0.016**	**0.263**	**0.319**	**0.318**	**0.280**	**0.340**	**0.11**	NM	NM	**0.084**
Zinc	N	mg/L	NL	NL	5	NM	NM	NM	<0.010	NM	NM	NM	NM	<0.010	NM	NM	NM	<0.010
Inorganics - Other																		
Chloride	Y	mg/L	NL	NL	200.0	**33**	**13**	**8**	NM	**1160**	**1240**	**1270**	**1050**	NM	**500**	NM	NM	NM
Methane	Y	µg/L	NL	NL	NS	**28.2**	**10.2 NS**	<2.0	NM	**1360**	**620 J**	**970 J**	**1710**	NM	**91.6**	NM	NM	NM
Nitrate (as N)	Y	mg/L	NL	NL	10.0	< 0.1	< 0.10	**0.19 J+**	NM	< 0.1	**0.24 J**	< 0.10 J	**0.18 J+**	NM	< 0.1	NM	NM	NM
Sulfate	Y	mg/L	NL	NL	400.0	< 30 W	**16**	<15	NM	< 30 W	< 15	< 15	<15	NM	< 30 W	NM	NM	NM
SVOCs																		
1,4-Dioxane	N	ug/L	NL	NL	7.7	NM	NM	NM	**9**	NM	NM	NM	NM	**133 J**	NM	NM	NM	**19**

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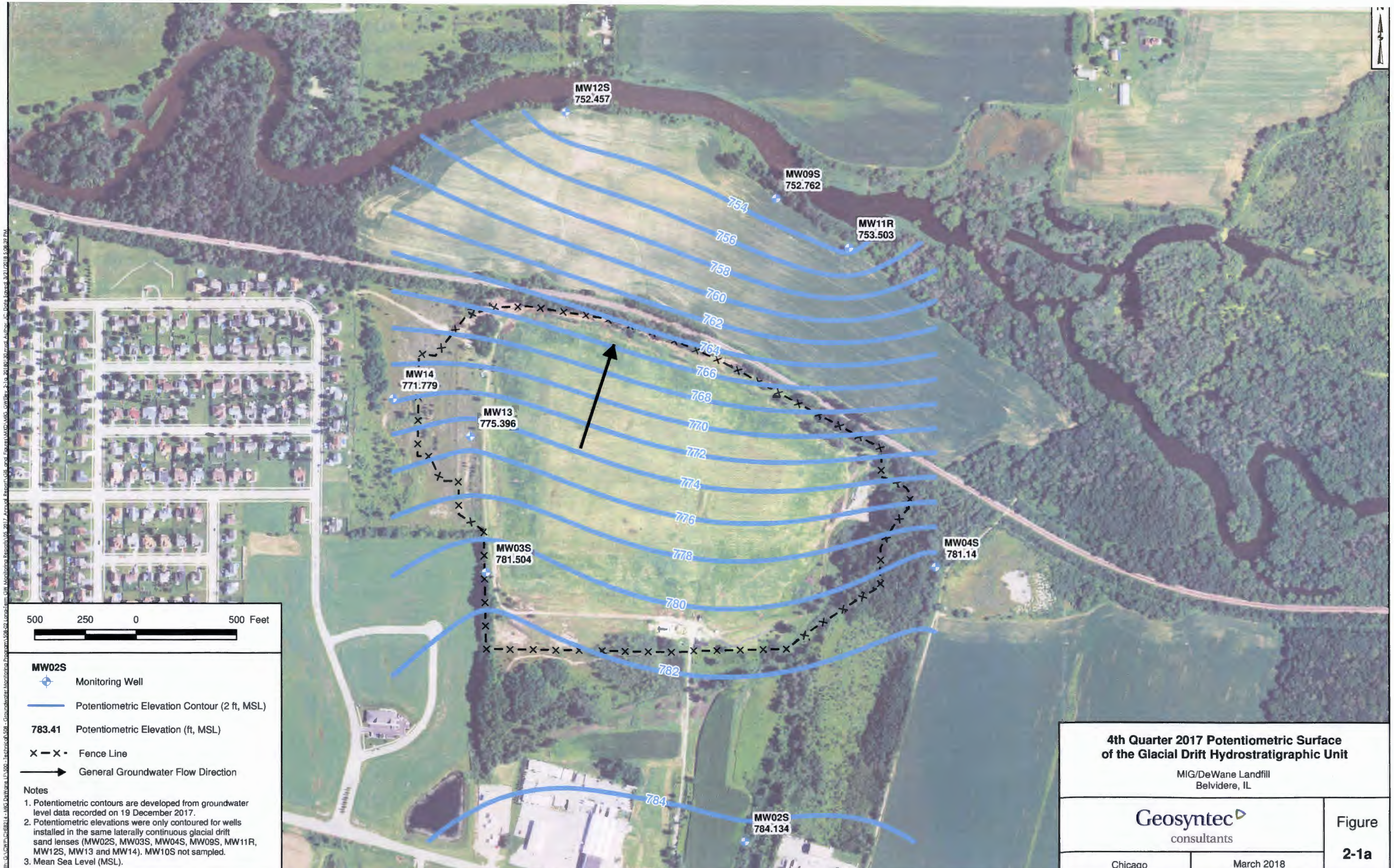
FIGURES

N
MW10D 755.57
MW10S
MW12D 755.58
MW12S 752.46
MW09D 753.17
MW09S 752.76
MW11R 753.50
MW08D 759.85
MW08S 760.22
MW07D 760.37
MW07S 762.68
MW16R 763.82
MW06D 762.76
MW06S 765.31
MW15 766.26
MW14 771.78
MW13 775.40
MW05D 763.49
MW05S 763.18
MW04D 780.42
MW04S 781.14
MW03D 780.99
MW03S 781.50
MW02D 783.88
MW02S 784.13
500 250 0 500 Feet
Not Sampled
Elevation Only
Sample Collected
Fenceline
Edge of Landfill Waste
783.41 Potentiometric Elevation (ft, MSL)
Long-Term Groundwater Monitoring Well Locations
Belvidere, IL
Geosyntec consultants
Figure 1-1
Chicago
March 2018



Notes
1. Potentiometric contours are developed from groundwater level data recorded on 19 December 2017.
2. Potentiometric elevations were only contoured for wells installed in the same laterally continuous glacial drift sand lenses (MW02S, MW03S, MW04S, MW09S, MW11R, MW12S, MW13 and MW14). MW10S not sampled.
3. Mean Sea Level (MSL).

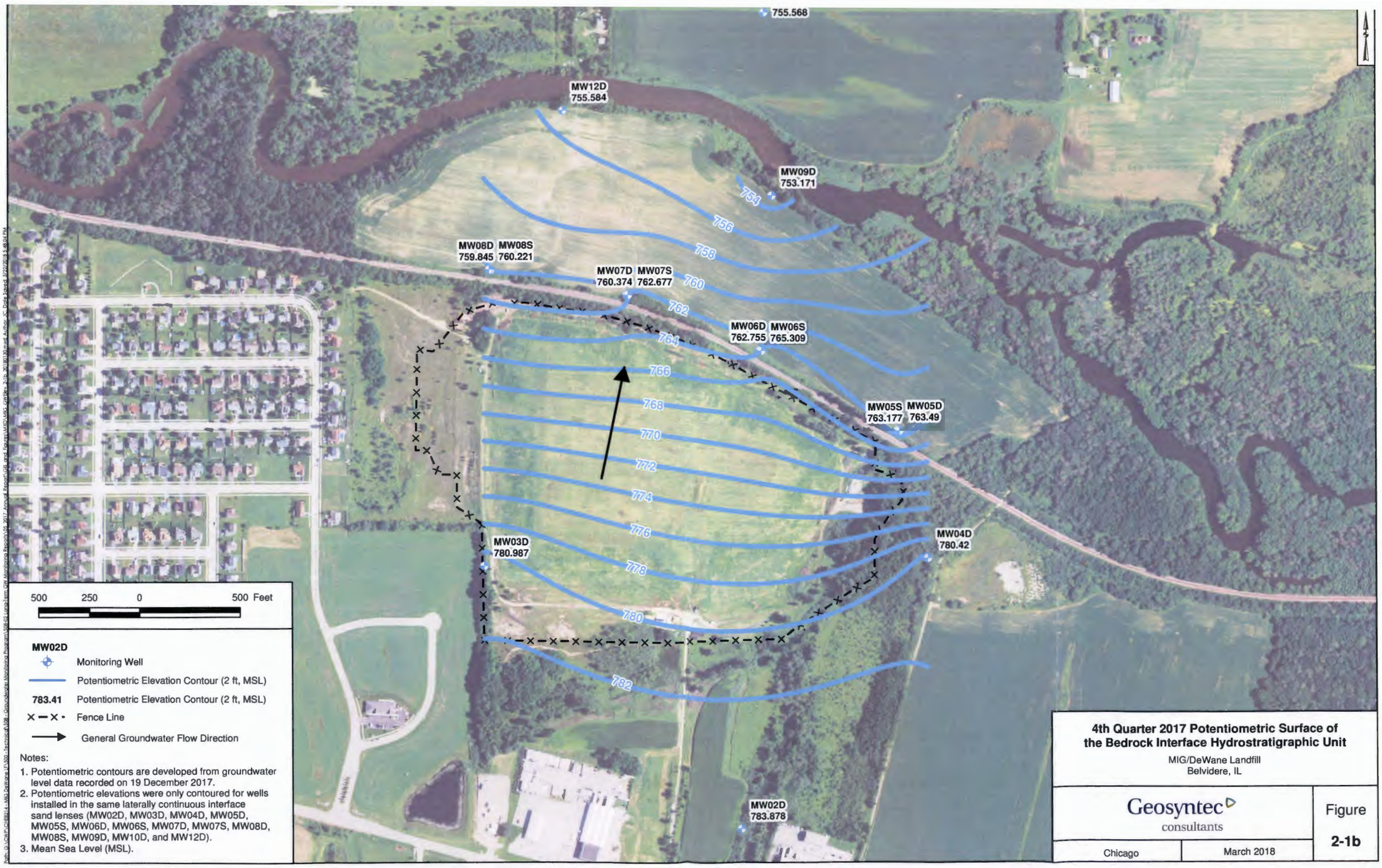
4th Quarter 2017 Potentiometric Surface of the Glacial Drift Hydrostratigraphic Unit

MIG/DeWane Landfill
Belvidere, IL

Geosyntec consultants

Chicago | March 2018

Figure 2-1a



Notes:

1. Potentiometric contours are developed from groundwater level data recorded on 19 December 2017.
2. Potentiometric elevations were only contoured for wells installed in the same laterally continuous interface sand lenses (MW02D, MW03D, MW04D, MW05D, MW05S, MW06D, MW06S, MW07D, MW07S, MW08D, MW08S, MW09D, MW10D, and MW12D).
3. Mean Sea Level (MSL).

4th Quarter 2017 Potentiometric Surface of the Bedrock Interface Hydrostratigraphic Unit

MIG/DeWane Landfill
Belvidere, IL

Geosyntec consultants

Chicago | March 2018

Figure **2-1b**

Path: G:\CHI\CHI8214 - MIG DeWane LFG 500 - Technical\508 - Groundwater Monitoring Program\508-02 Long-Term GW Monitoring Reports\03_2017 Annual Report\GW_

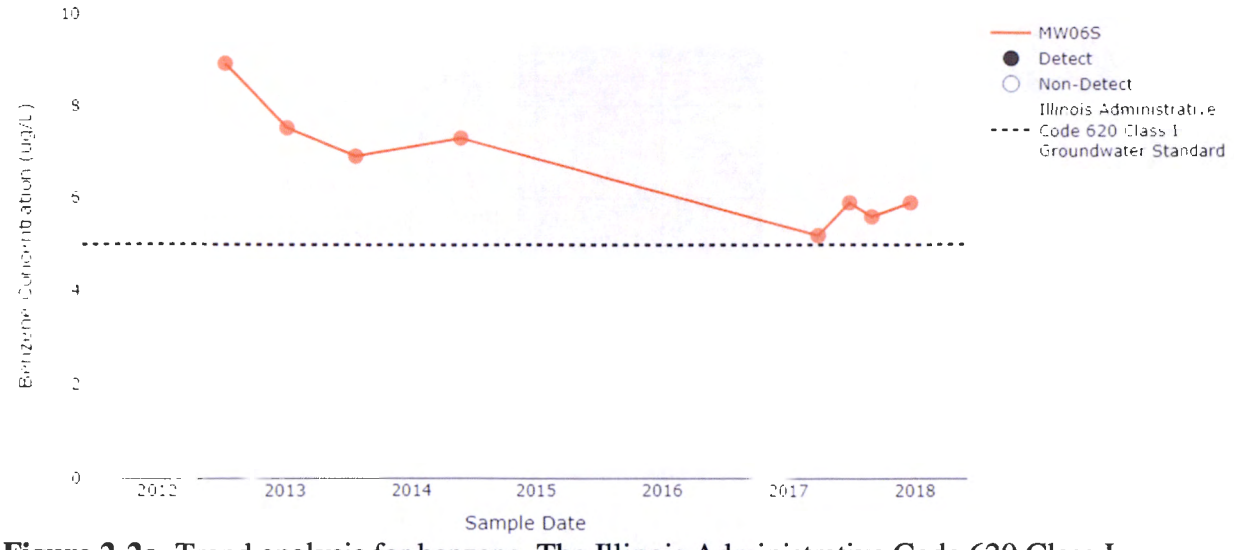


Figure 2-2a. Trend analysis for benzene. The Illinois Administrative Code 620 Class I Groundwater Standard for benzene is 5.0 µg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

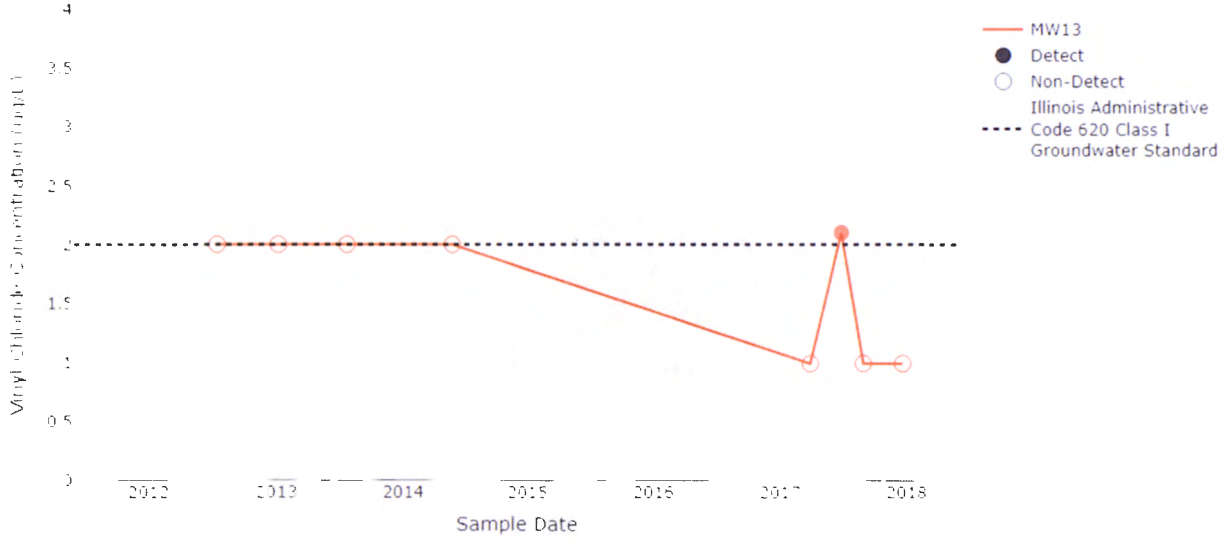


Figure 2-2b. Trend analysis for vinyl chloride. The Illinois Administrative Code 620 Class I Groundwater Standard for vinyl chloride is 2.0 µg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

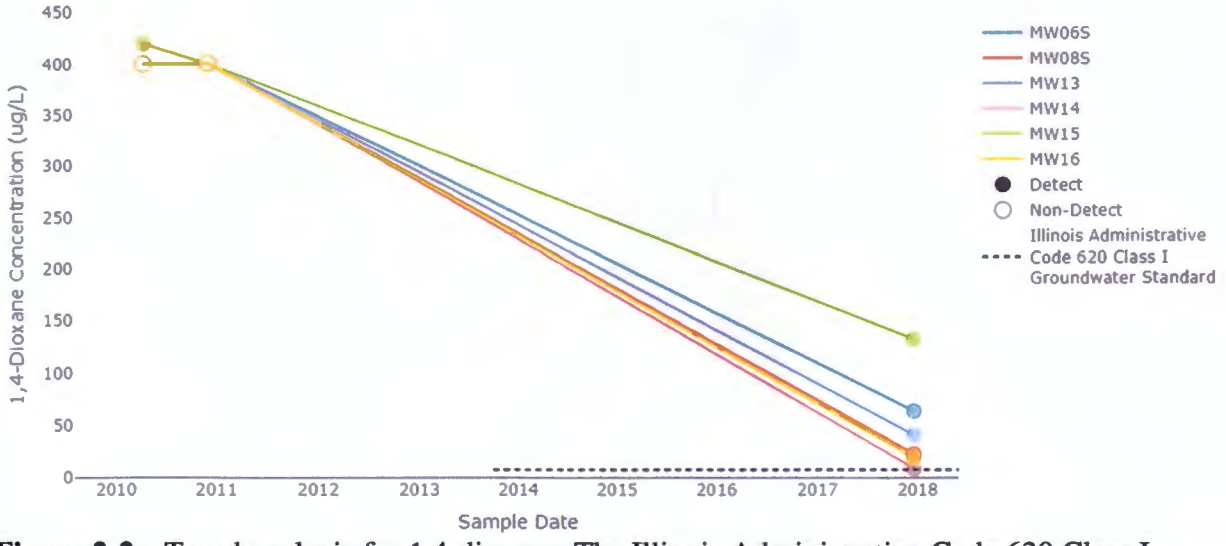


Figure 2-2c. Trend analysis for 1,4-dioxane. The Illinois Administrative Code 620 Class I Groundwater Standard for 1,4-dioxane is 7.7 µg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

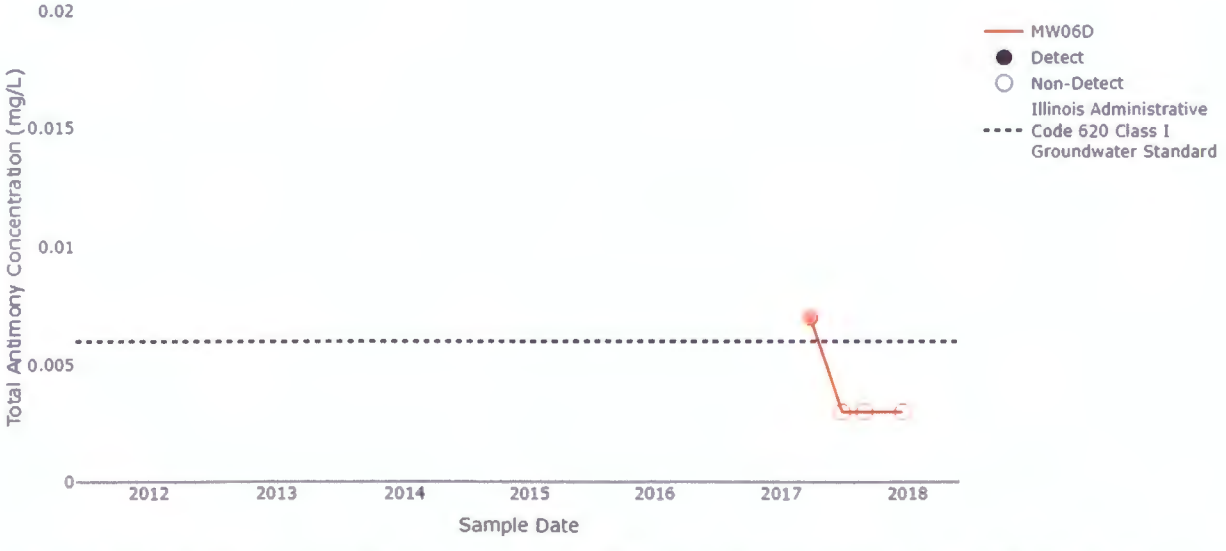


Figure 2-2d. Trend analysis for antimony. The Illinois Administrative Code 620 Class I Groundwater Standard for antimony is 0.006 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Antimony in MW06D was not tested for from 2012 through the end of construction.

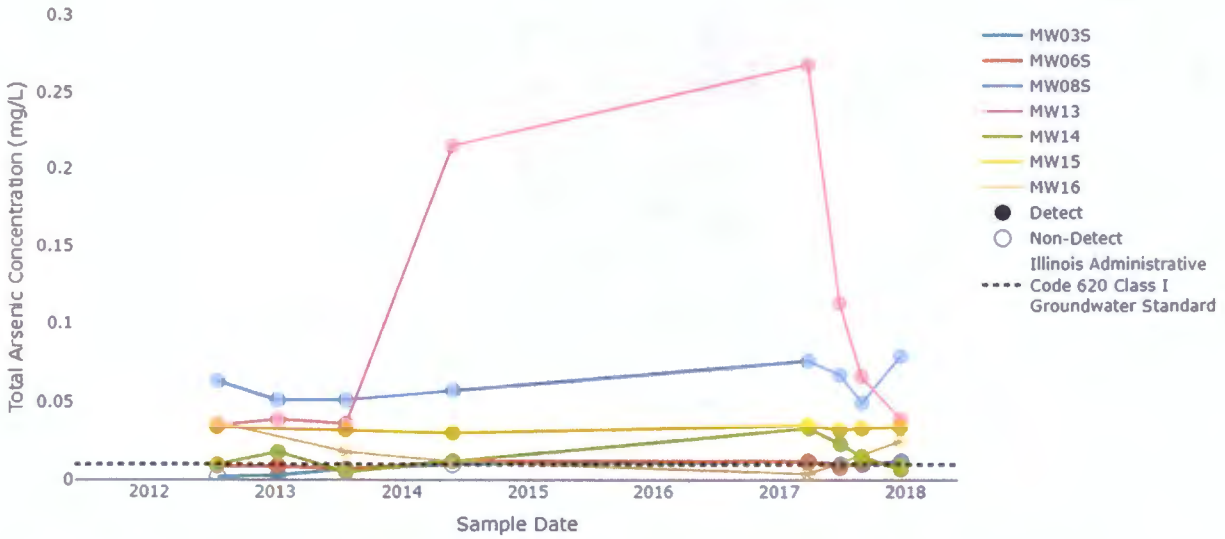


Figure 2-2e. Trend analysis for arsenic. The Illinois Administrative Code 620 Class I Groundwater Standard for arsenic is 0.010 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

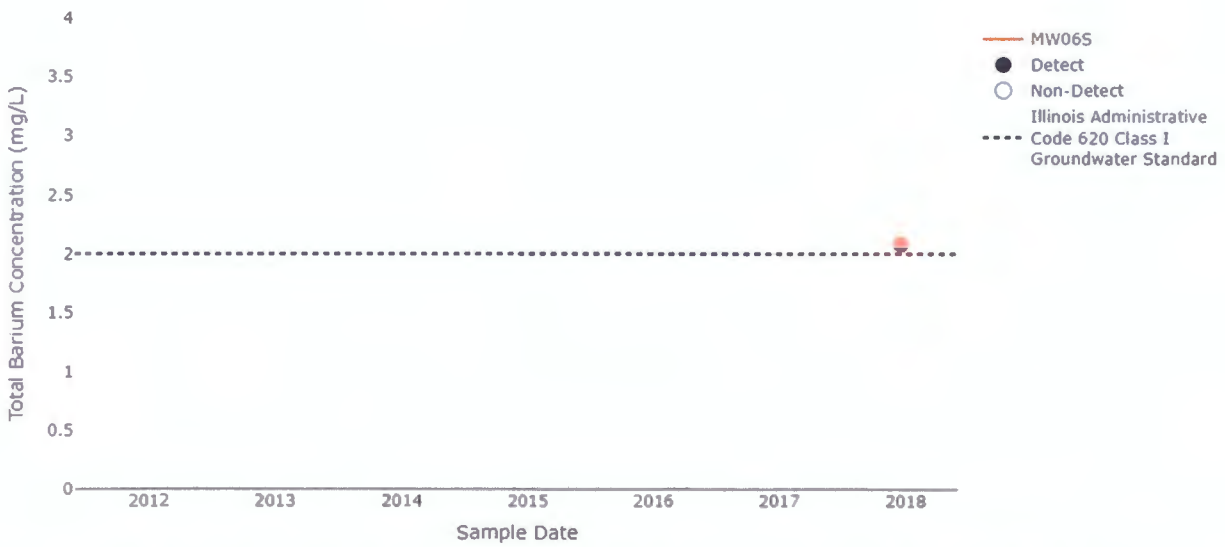


Figure 2-2f. Trend analysis for barium. The Illinois Administrative Code 620 Class I Groundwater Standard for barium is 2.0 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Barium was not tested for from 2012 through the end of construction and only tested for during the 4th qtr. of 2017.

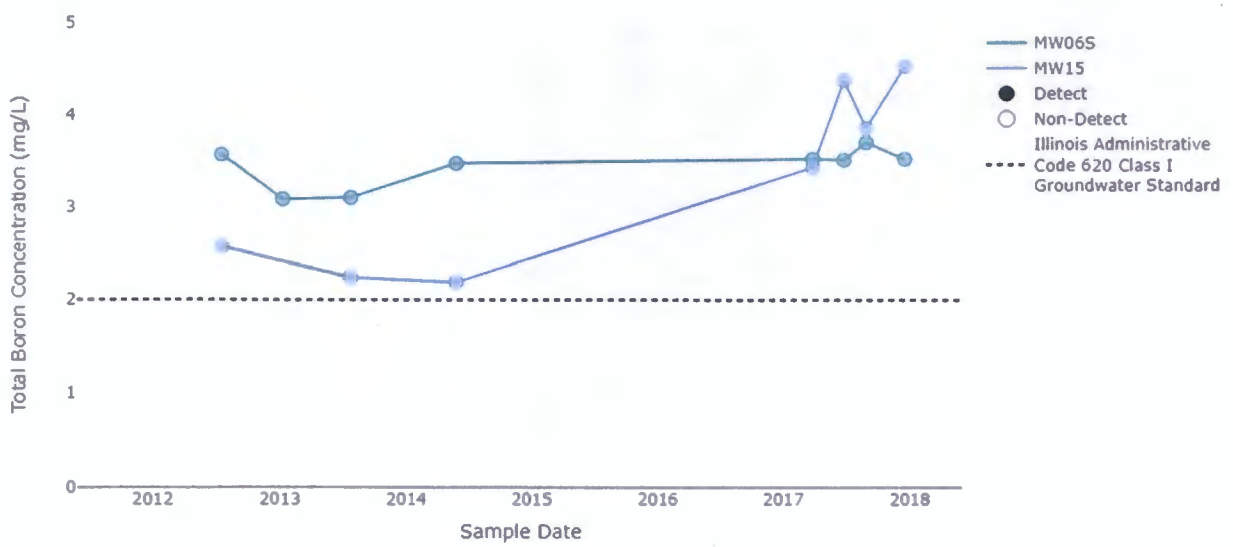


Figure 2-2g. Trend analysis for boron. The Illinois Administrative Code 620 Class I Groundwater Standard for boron is 2.0 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

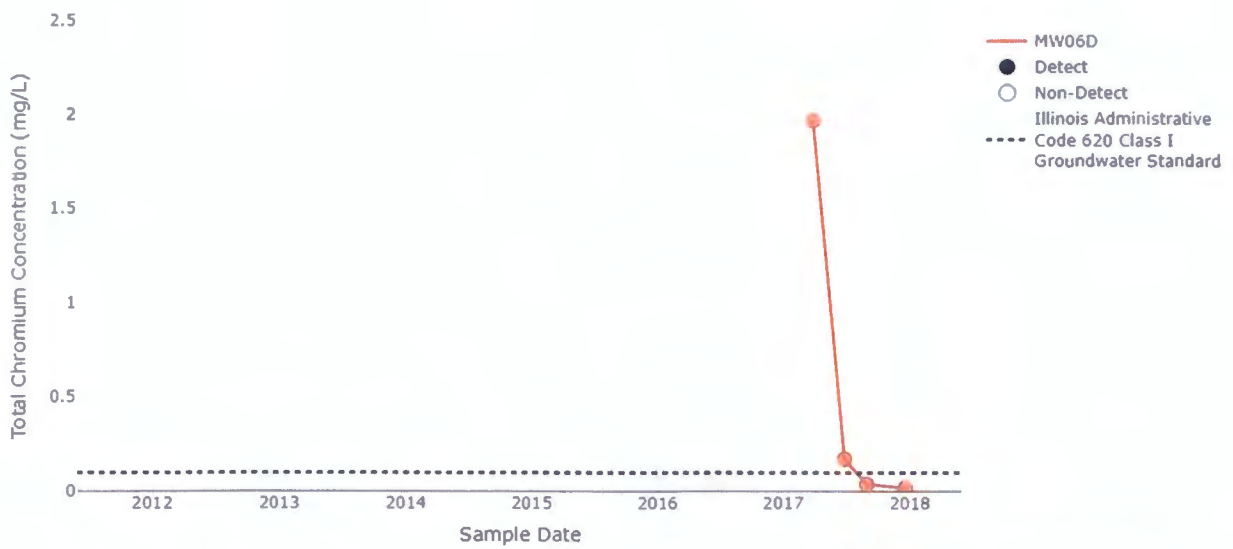


Figure 2-2h. Trend analysis for chromium. The Illinois Administrative Code 620 Class I Groundwater Standard for chromium is 0.1 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Chromium in MW06D was not tested for from 2012 through the end of construction.

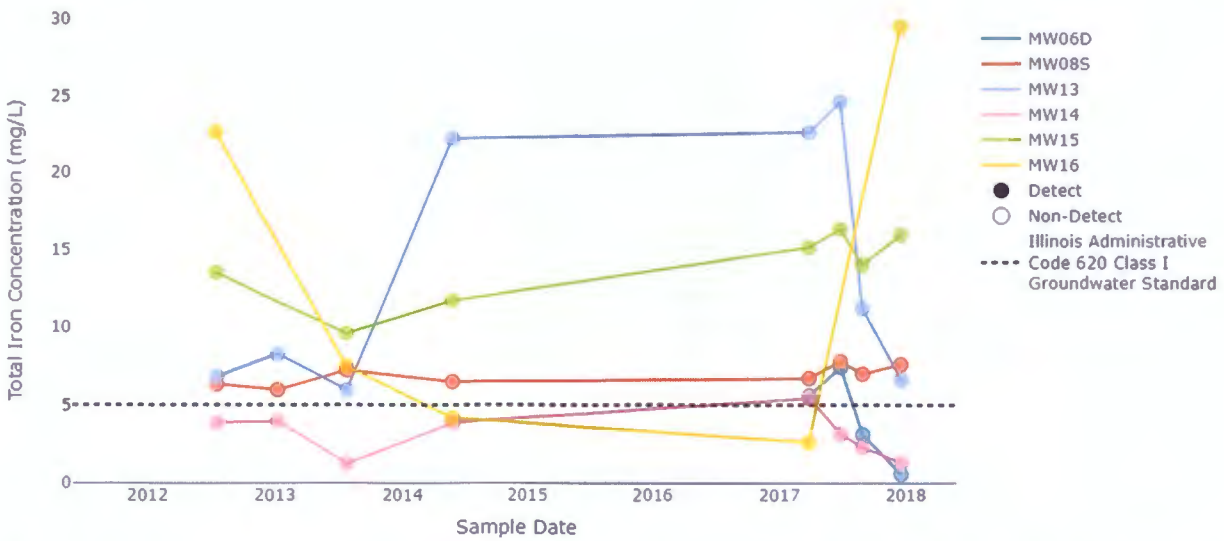


Figure 2-2i. Trend analysis for iron. The Illinois Administrative Code 620 Class I Groundwater Standard for iron is 5.0 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Iron in MW06D was not tested for from 2012 through the end of construction.

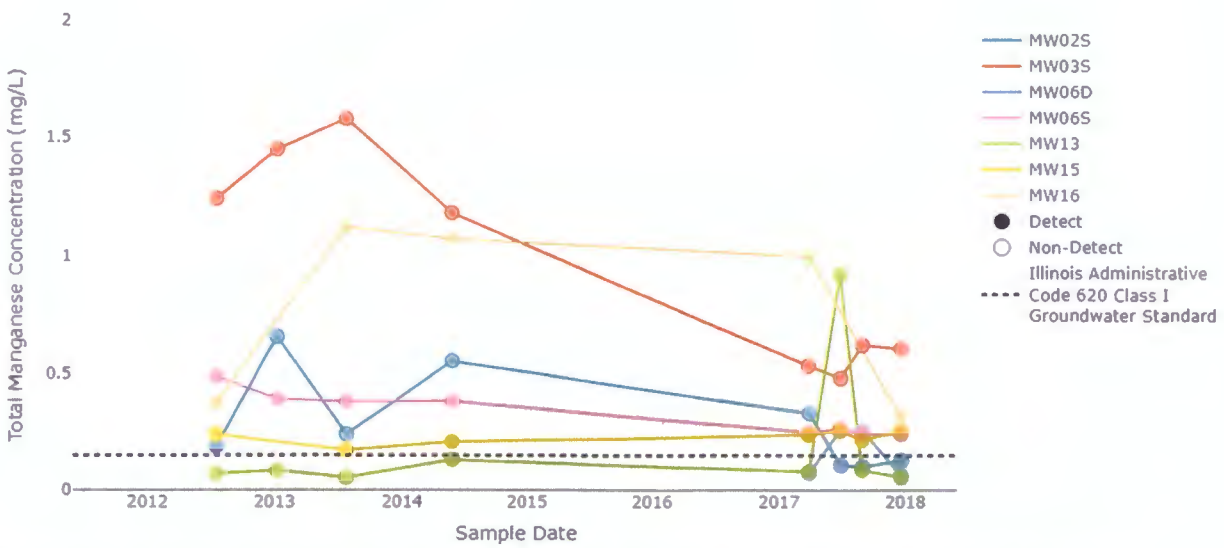


Figure 2-2j. Trend analysis for manganese. The Illinois Administrative Code 620 Class I Groundwater Standard for manganese is 0.15 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction.

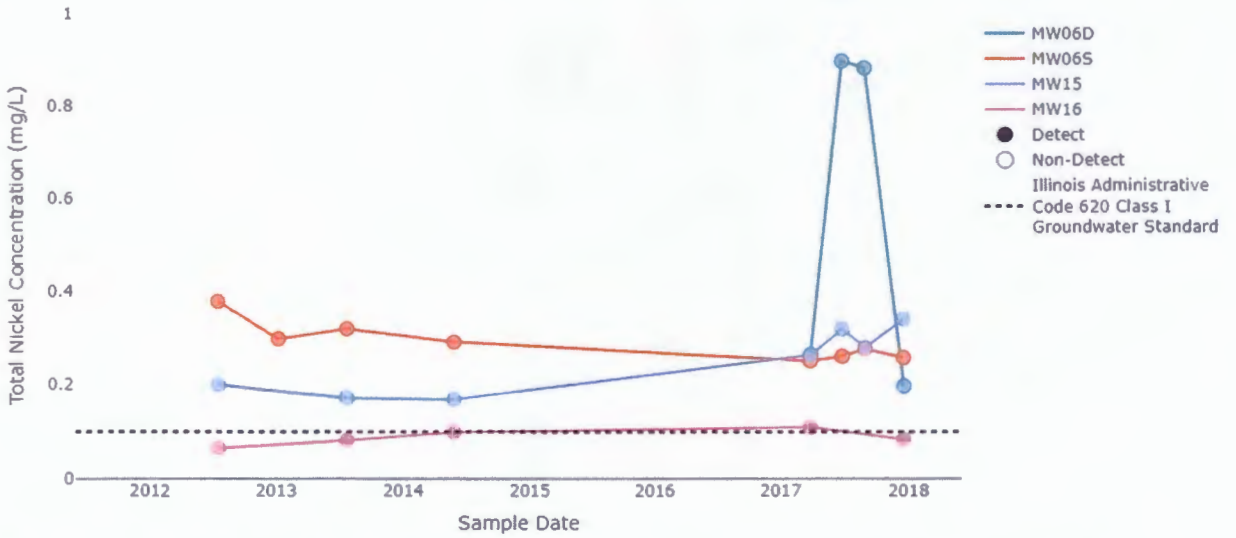
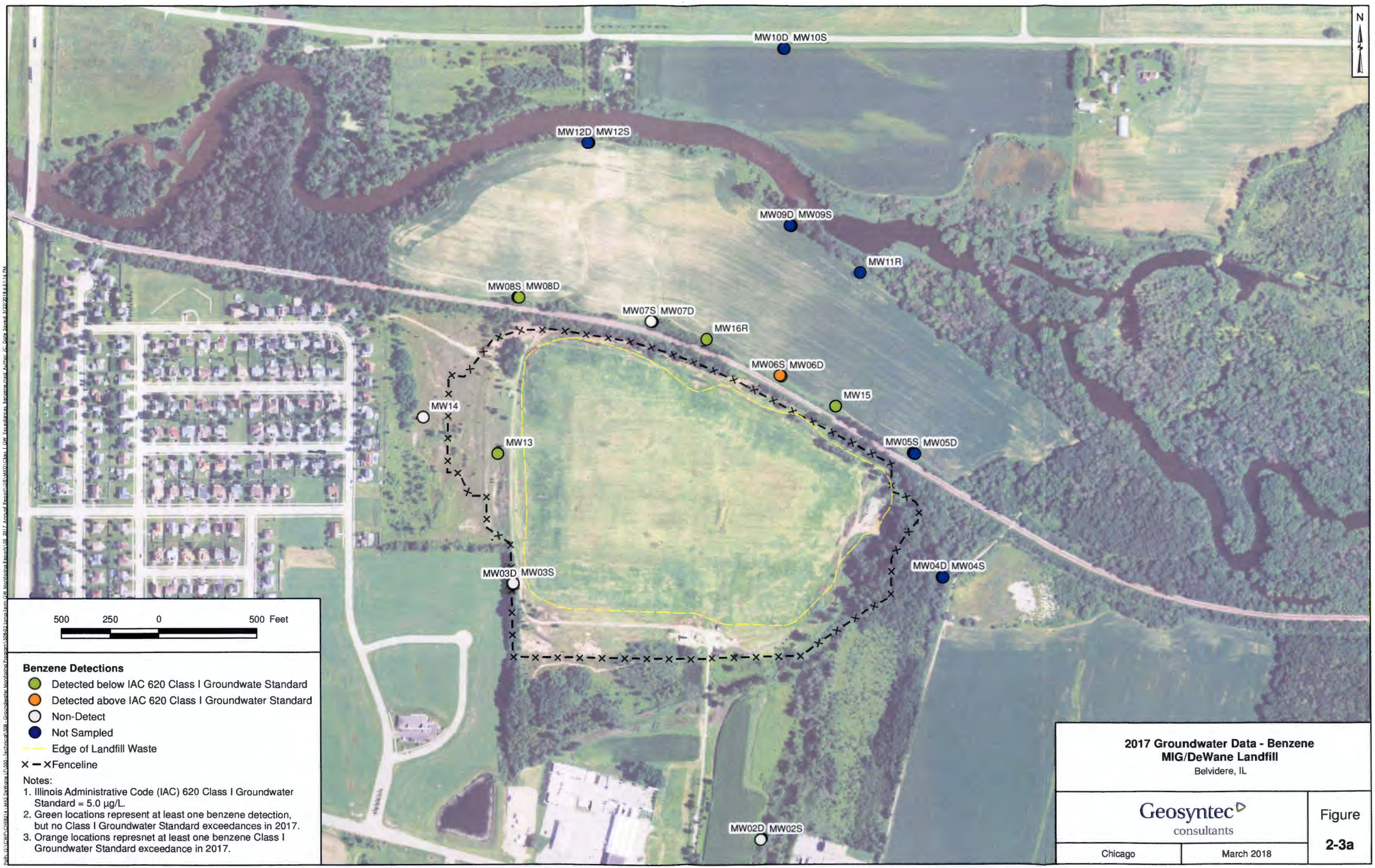


Figure 2-2k. Trend Analysis for nickel. The Illinois Administrative Code 620 Class I Groundwater Standard for nickel is 0.1 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Nickel in MW06D was not tested for from 2012 through the end of construction.

Figure 2-2l. Trend analysis for chloride. The Illinois Administrative Code 620 Class I Groundwater Standard for chloride is 200.0 mg/L. The shaded area represents corrective actions construction, which was performed between October 2014 and September 2016; no samples were collected during construction. Chloride was not tested for from 2012 to through the end of construction.



2017 Groundwater Data - Benzene
MIG/DeWane Landfill
Belvidere, IL

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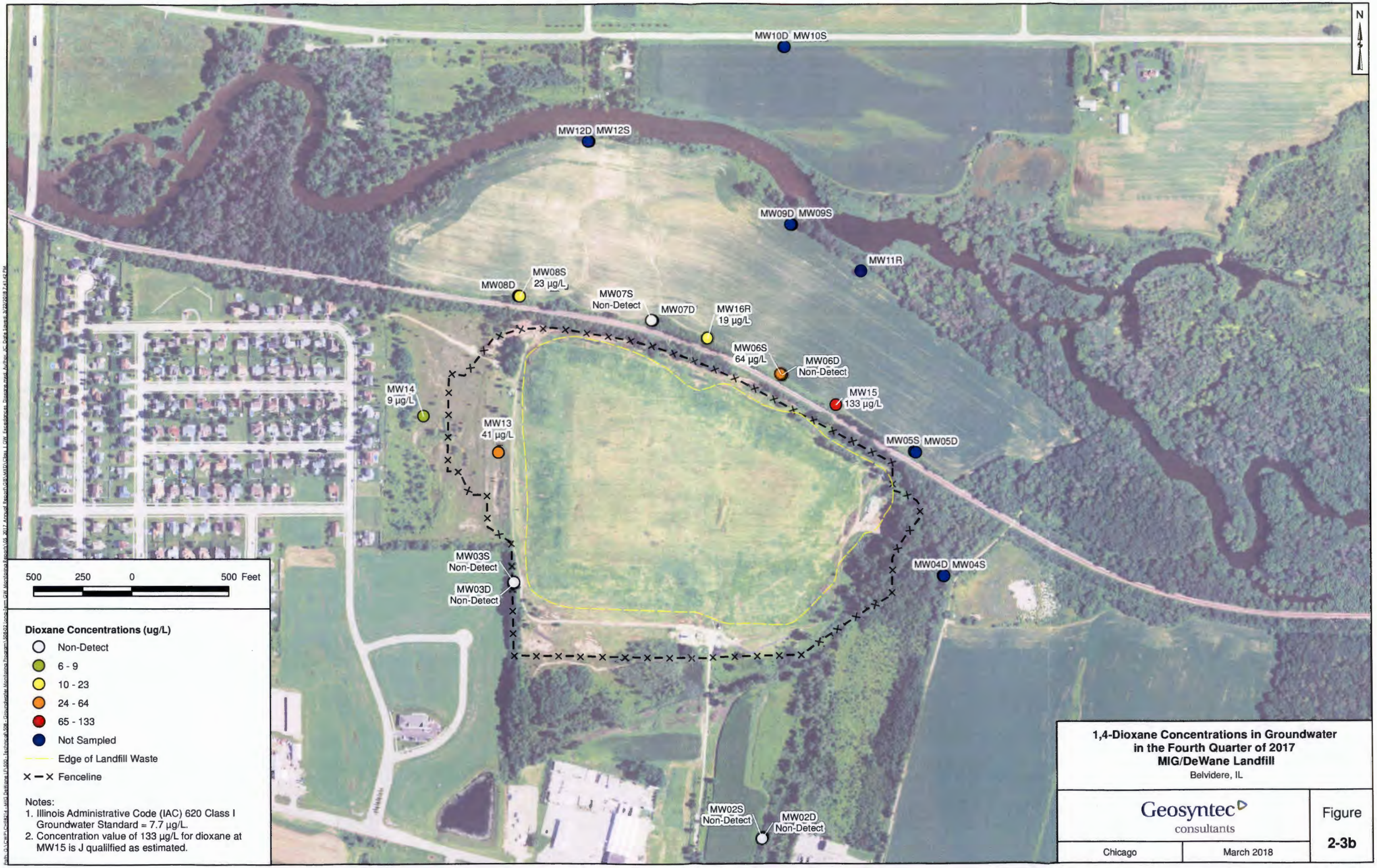
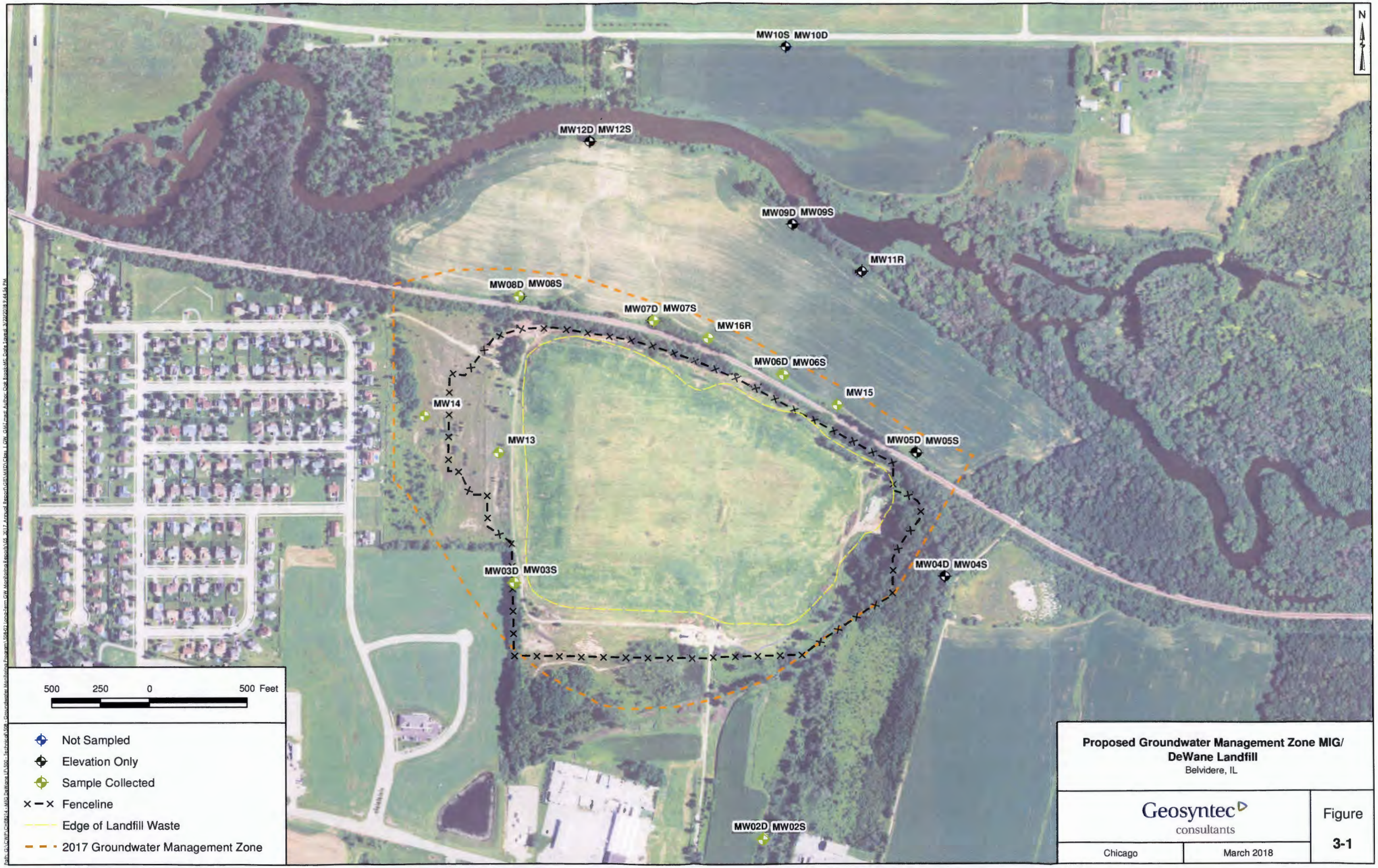
Chicago | March 2018

Figure **2-3a**


MW10D
MW10S
MW12D
MW12S
MW09D
MW09S
MW11R
MW08D
MW08S
23 µg/L
MW07S
Non-Detect
MW07D
MW16R
19 µg/L
MW06S
64 µg/L
MW06D
Non-Detect
MW15
133 µg/L
MW14
9 µg/L
MW13
41 µg/L
MW05S
MW05D
MW04D
MW04S
MW03S
Non-Detect
MW03D
Non-Detect
MW02S
Non-Detect
MW02D
Non-Detect
N
500 250 0 500 Feet
Dioxane Concentrations (ug/L)
Non-Detect
6 - 9
10 - 23
24 - 64
65 - 133
Not Sampled
Edge of Landfill Waste
Fenceline
Notes:
1. Illinois Administrative Code (IAC) 620 Class I Groundwater Standard = 7.7 µg/L.
2. Concentration value of 133 µg/L for dioxane at MW15 is J qualilfied as estimated.
1,4-Dioxane Concentrations in Groundwater in the Fourth Quarter of 2017
MIG/DeWane Landfill
Belvidere, IL
Geosyntec consultants
Chicago
March 2018
Figure
2-3b



Proposed Groundwater Management Zone MIG/ DeWane Landfill
Belvidere, IL

Geosyntec consultants

Chicago | March 2018

Figure 3-1

APPENDIX A

Dissolved Methane and Benzene Trends

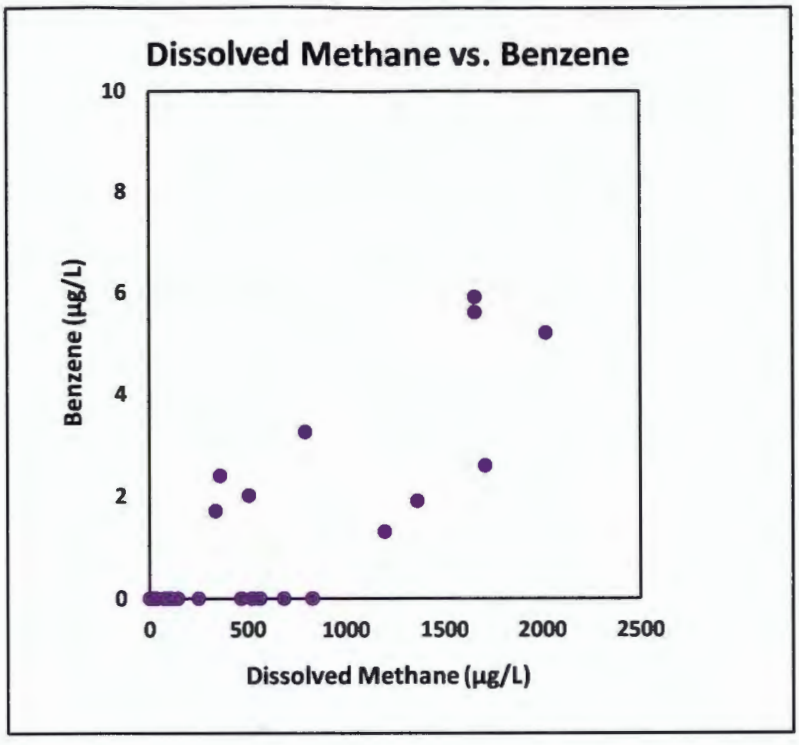


Figure A-1. Dissolved Methane (µg/L) versus Benzene (µg/L) for all 2017 quarters and well locations.

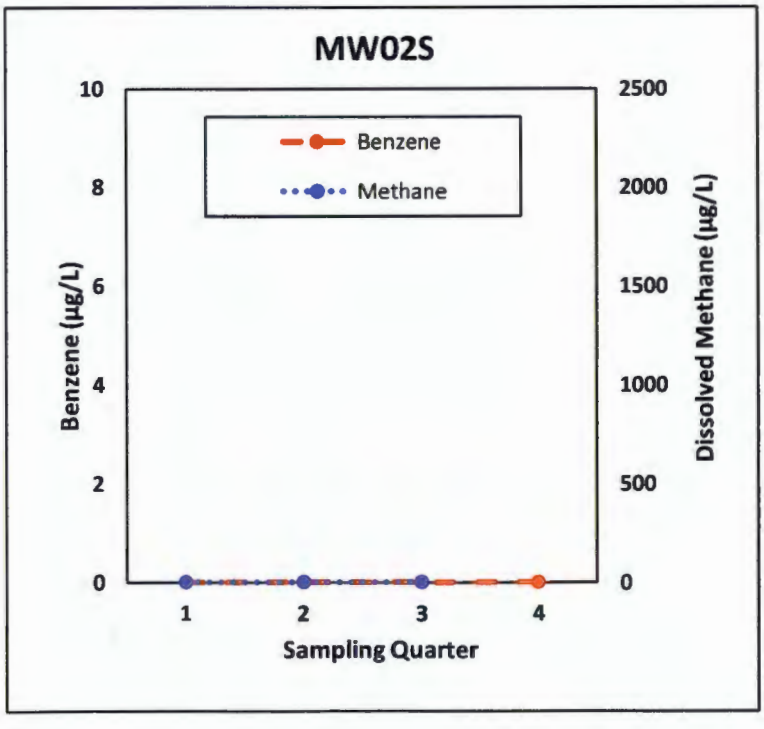


Figure A-2. Dissolved Methane and Benzene Trends for 2017 at MW02S.

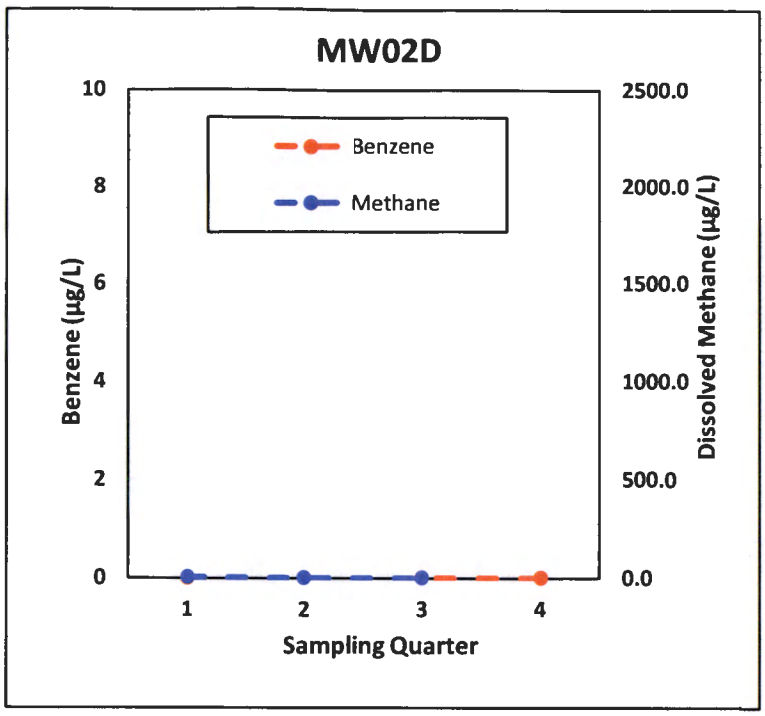


Figure A-3. Dissolved Methane and Benzene Trends for 2017 at MW02D.

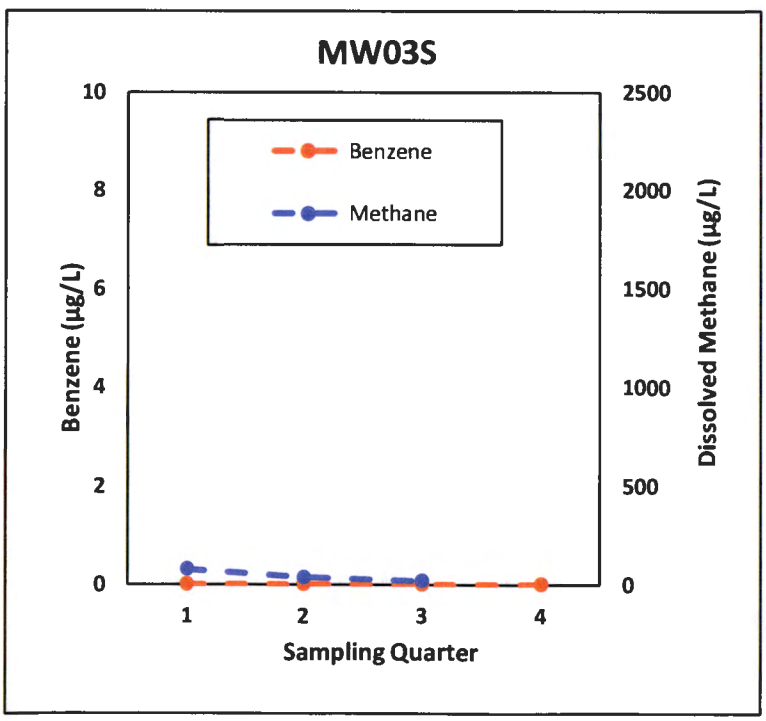


Figure A-4. Dissolved Methane and Benzene Trends for 2017 at MW03S.

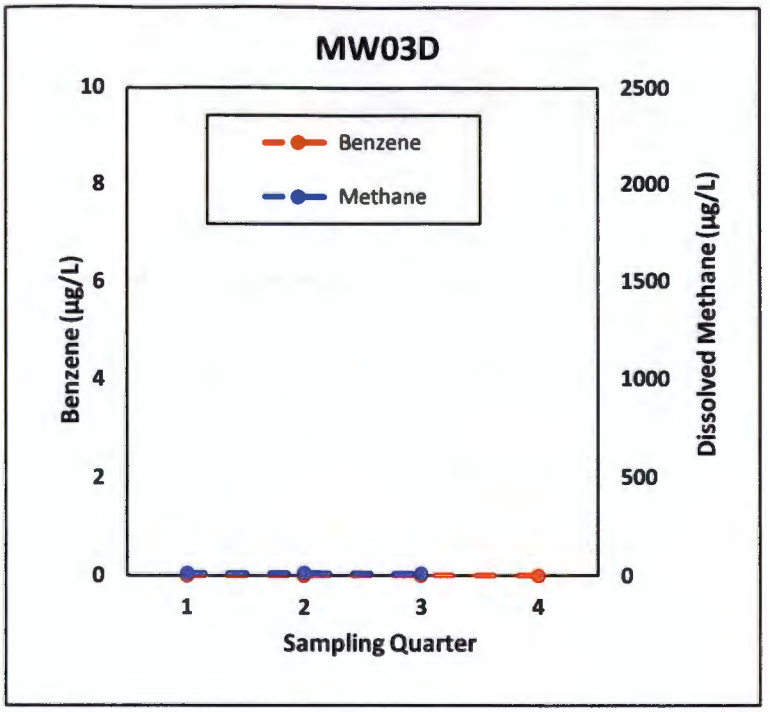


Figure A-5. Dissolved Methane and Benzene Trends for 2017 at MW03D.

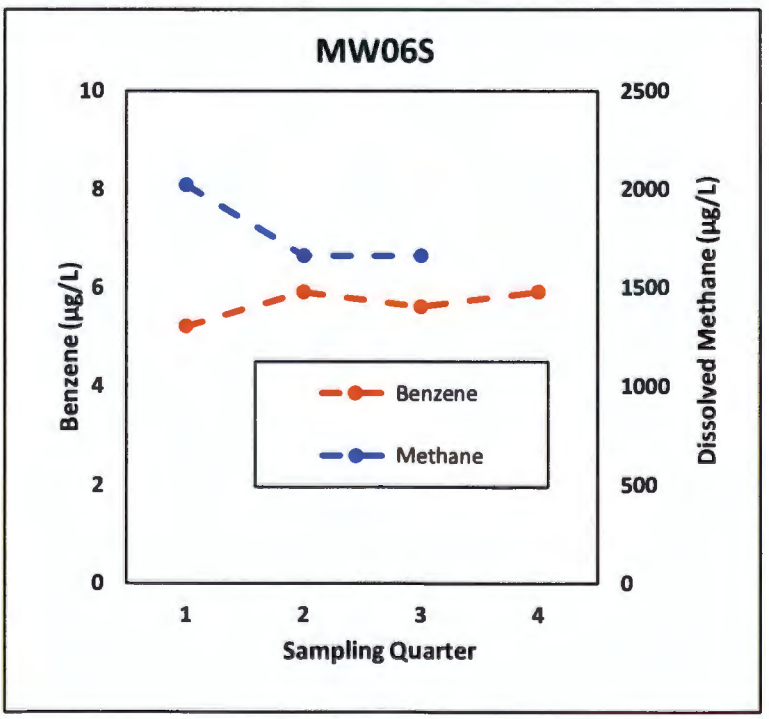


Figure A-6. Dissolved Methane and Benzene Trends for 2017 at MW06S.

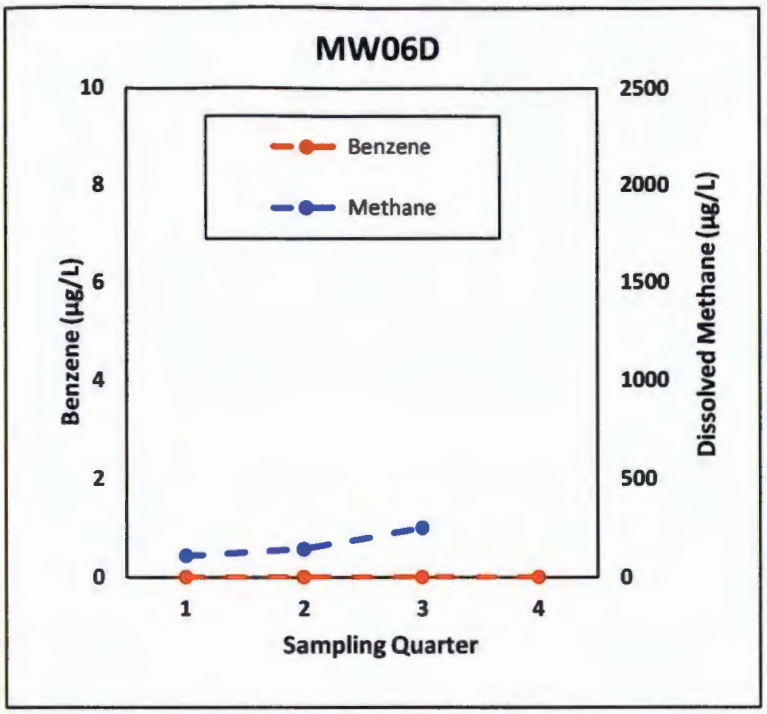


Figure A-7. Dissolved Methane and Benzene Trends for 2017 at MW06D.

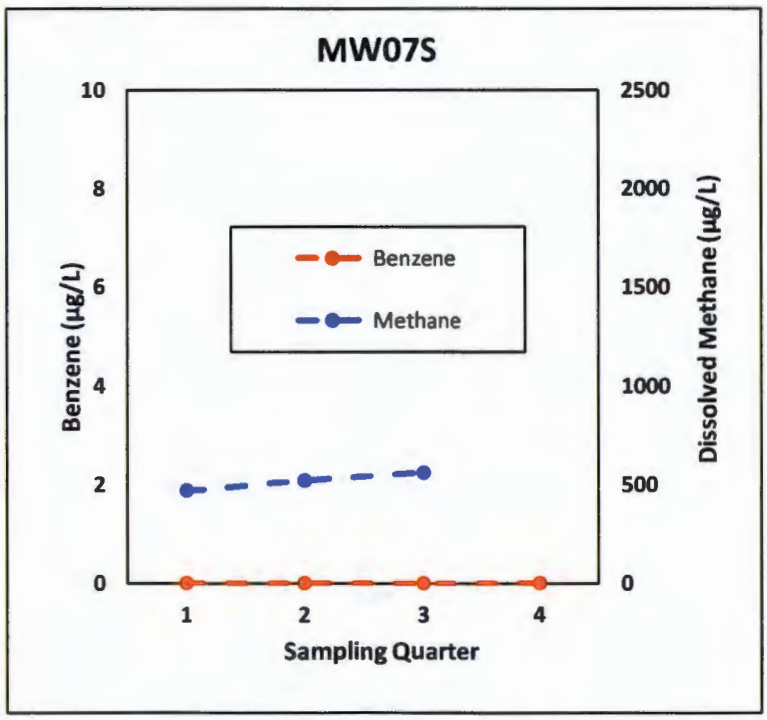


Figure A-8. Dissolved Methane and Benzene Trends for 2017 at MW07S.

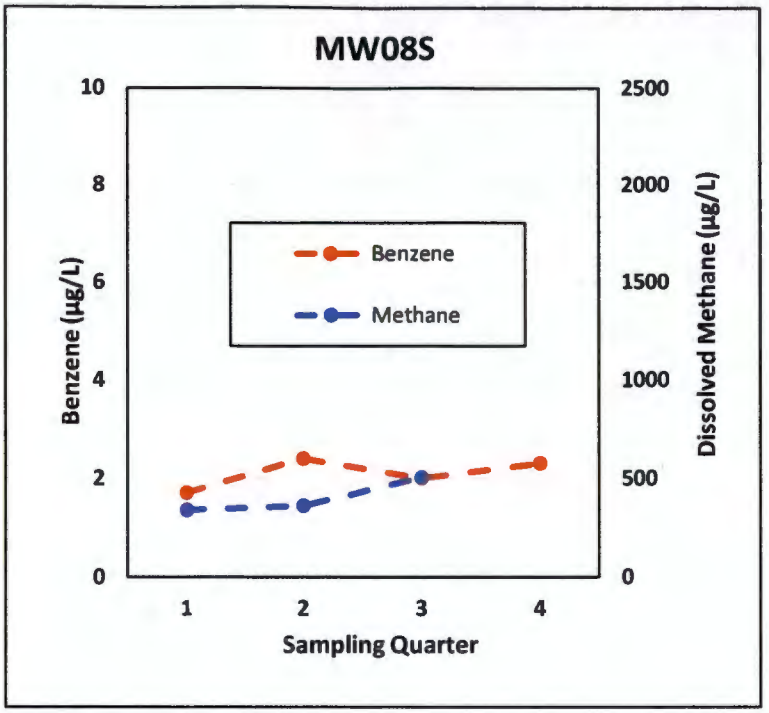


Figure A-9. Dissolved Methane and Benzene Trends for 2017 at MW08S.

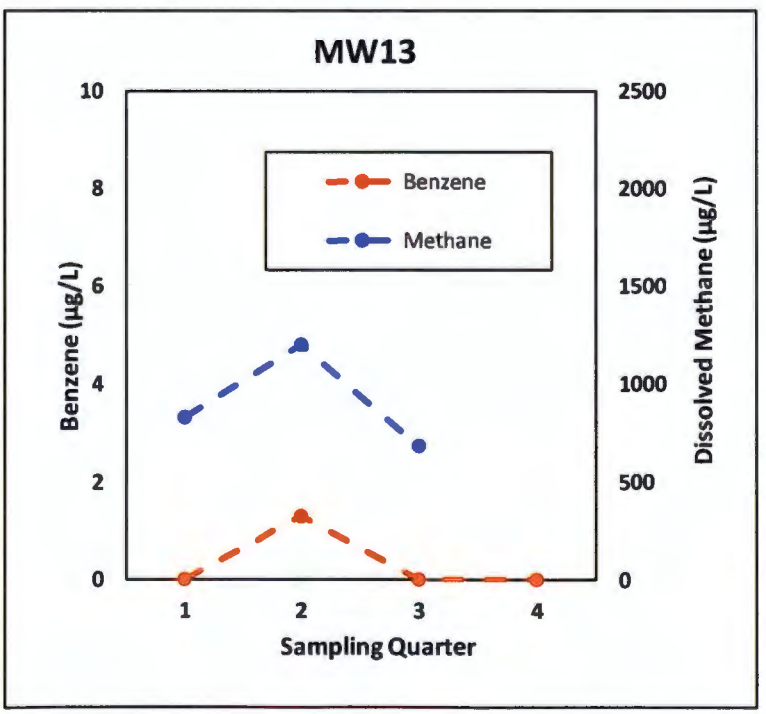


Figure A-10. Dissolved Methane and Benzene Trends for 2017 at MW13.

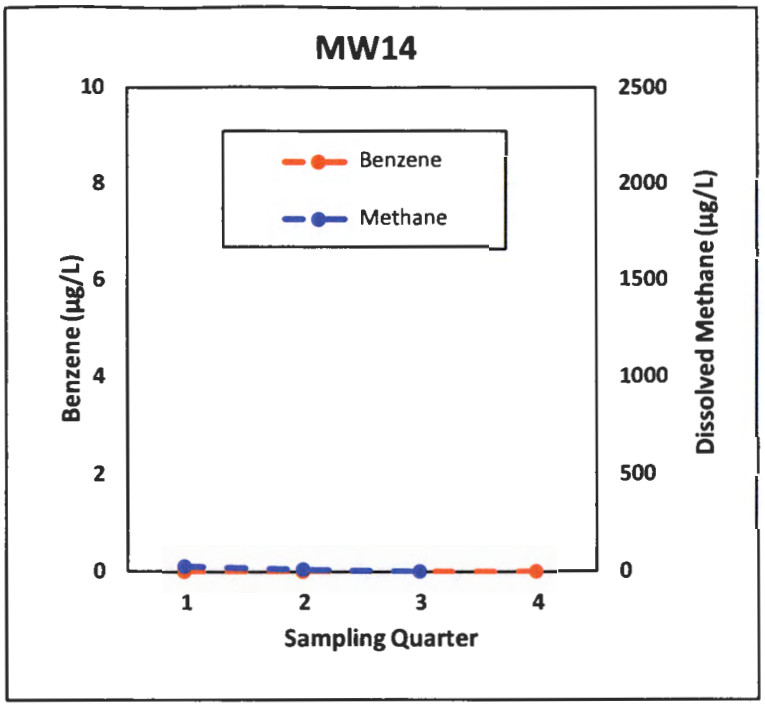


Figure A-11. Dissolved Methane and Benzene Trends for 2017 at MW14.

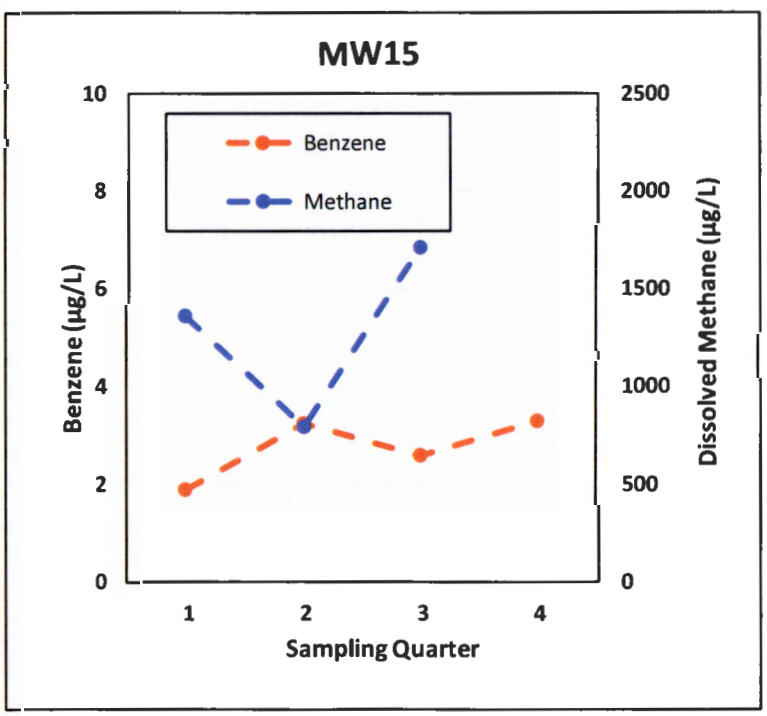


Figure A-12. Dissolved Methane and Benzene Trends for 2017 at MW15.

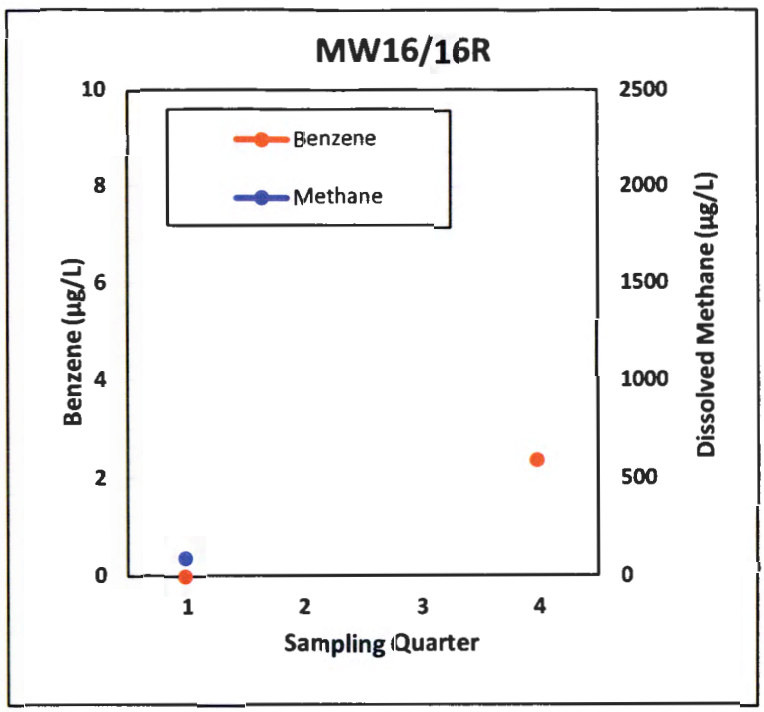


Figure A-13. Dissolved Methane and Benzene Trends for 2017 at MW16/16R.